

Mac FORMAT



FOR ALL YOUR
APPLE NEEDS
— for 22 years —

iPHONE 6s WHY YOU NEED IT!

PLUS...
THE NEW
iPAD MINI 4
ON TEST



#1 THE UK'S
BEST-SELLING
APPLE MAG!



Get more from iCloud

Go deeper into Apple's
back-up and sync service



Personalise your Dock

Brighten your Desktop
with custom OS X icons



Secure your files for free

Use Encrypto to protect
data from prying eyes

OS X El Capitan



HIDDEN SECRETS OF APPLE'S NEW OS!

*All-new Split View, improved
Spotlight search, rich Notes
and much more...*

KIT RATED

- Touchscreen router
- Lightbulbs with sound!
- DSLR add-on for iPhone



What's next for the Mac?

See what future iMacs
and MacBooks can do



Explore the new iPad Pro

Discover exactly how
you'll use the 'big iPad'



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Welcome

**NEXT
MONTH**
Apple buyer's
super guide
24 Nov

to MacFormat, the UK's best-selling Apple magazine



Apple's OS X El Capitan is here at last, giving your Mac a new lease of life with some great new features – most notably, Split View... finally giving Mac users a side-by-side way of using two full-screen apps at the same time. It's true to say that El Capitan builds on Yosemite, and it's many of the seemingly minor changes that actually make the biggest difference to how you use the OS. Because we've been using the developer and public betas for months, we've uncovered dozens of great tricks that are hardly given a mention in Apple's own documentation. Turn to page 26 to master El Capitan with our pick of 75 great tips.

We're always fascinated to see what Apple might do next, so we dusted off our crystal ball and gazed into the future of Apple's Mac range – and OS X – to see what the next two years might bring us. By analysing Apple trends and Intel's processor roadmap, we've put together our vision for the next iMac and MacBook – let us know what you think of our designs.

While we're gearing up for the release of the iPad Pro in November, we took the time to speak to creative pros about how they think they'll use the big iPad. Read their thoughts on page 18.



Christian Hall
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Meet the team!



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Plus our team of expert writers and designers all over the world, who help make *MacFormat* number one!

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APPLE TALK Have your say about Apple issues

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RATED Discover the best apps and kit

Read our verdict on the latest hardware and software for Apple devices, including games and iOS apps **p81**



UPGRADE! The best Macs and iOS devices

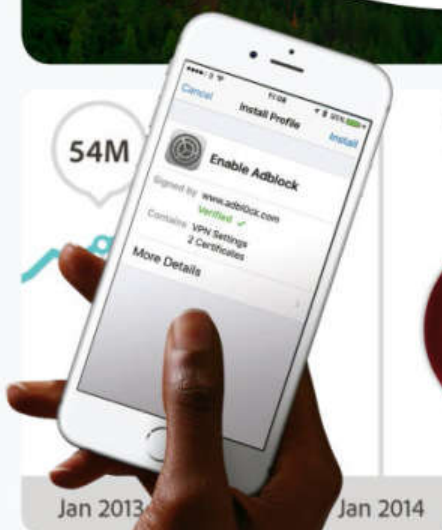
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*All-new Split View, improved
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Never miss an issue of your favourite magazine again! Get MacFormat delivered straight to your door or device with our great subscription offers on page 22.



Apple

We round-up the Apple stories that matter to you

WORLD



Has Apple really killed publishing?

Publishers and advertisers feel threatened by Apple's move to enable ad-blocking tools on iOS, but shouldn't they just make better ads?

For the first time, iOS lets users install software that blocks ads appearing in the Safari browser. That's great for users and mobile carriers attempting to slash the bandwidth that's currently wasted on ads, but it represents a huge challenge to the advertising and publishing industries.

Websites make money by attracting people with good content and then getting paid for advertising placed around that content. Ad blockers aren't new, of course – PageFair says that even now only 1 in 20 internet users on PC or Mac use them, but publisher fear Apple's dominance of mobile ad consumption could significantly impact the bottom line. That's because despite its relative market share in comparison with the Android platform, around 75% of global mobile ad revenue was generated by iOS devices in 2014.

Industry chatter

The move was widely discussed at a New York advertising industry exhibition last month. "People who are creating content need to make money", Sandy Pelland of MomLifeTV told the New York Post. "If you are a medium or small-sized website operating on very tight margins, this could make or break the business", said



"The move to block ads on iOS could cost Google over \$8 billion per year"





Apple in pictures
Actor Michael Fassbender portrays Steve Jobs **p9**



The team's picks from the store
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One more thing
Gary Marshall looks at Apple as a benefactor to humanity **p12**



We're most excited about
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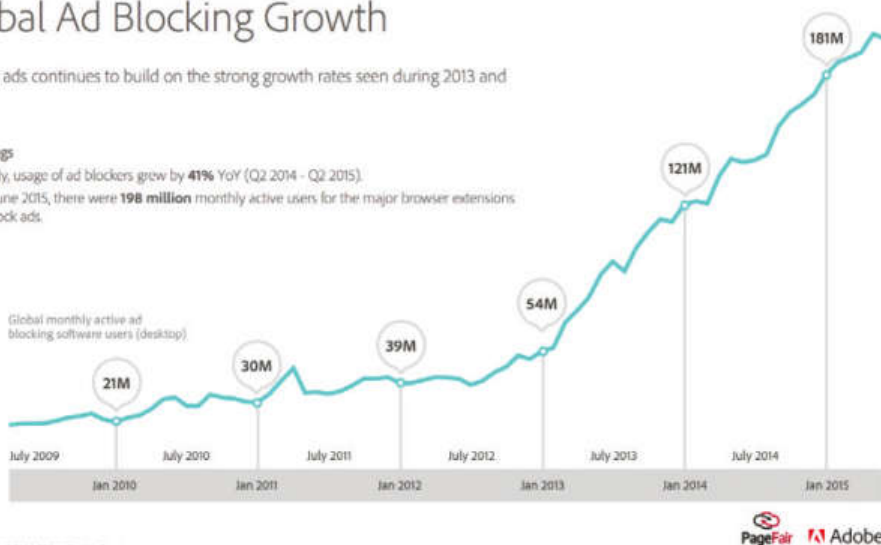
iPad Pro
Artists talk about Apple's upcoming, larger tablet **p18**

Global Ad Blocking Growth

Blocking ads continues to build on the strong growth rates seen during 2013 and 2014.

The findings

- Globally, usage of ad blockers grew by **41% YoY** (Q2 2014 - Q2 2015).
- As of June 2015, there were **198 million** monthly active users for the major browser extensions that block ads.



Apple's contribution to mobile ad revenue may force advertisers' hands, even though the use of ad blockers has been on the rise for a while, even before iOS 9.

Stephen Chester of the Interactive Advertising Bureau (IAB), who warned that traditional print-based news organisations were at particular risk.

The industry will need to raise its game including development of more engaging, less intrusive ads to convince consumers they don't need to use ad blockers. Earlier this year, Google CEO, Larry Page, told shareholders, "The industry needs to do better at producing ads that are less annoying and that are quicker to load".

Ads impose a big drain on data usage, impacting consumers and carriers alike, with cookies and graphics consuming huge chunks of bandwidth. As a case in point, The New York Times reported that using a mobile ad blocker on Safari delivered a 21% increase in battery life, "significantly lowered" data usage and reduced page loading times.

Measuring quality

It seems inevitable the industry will spawn whitelisting schemes (such as the Acceptable Ads program, acceptableads.org), which is free for small- and medium-sized sites and blogs to ensure their ads – which must meet certain quality criteria – are not blocked. This means users can continue to support their favourite

websites without being subject to poor-quality, poorly-targeted advertising. Independently-developed ad blocker, Crystal, even lets users define their own white lists, empowering them to choose to accept ads from sites they support.

"It is tragic that ad block users are inadvertently inflicting multi-billion dollar losses on the very websites they most enjoy. With ad-blocking going mobile, there's an eminent threat that the business model that has supported the open web for two decades is going to collapse", PageFair warns.

Undermining Google

Apple's own iAds service will be unaffected by its content-blocking technology. These ads only appear in apps, rather than in Safari. Apple may even benefit as it places iAds around content culled from across the web in its own News app.

Assuming ad agencies and advertisers don't up their game, Google is likely to feel the impact. 90% of its \$66 billion revenue in 2014 came from advertising, 18% from mobile search (around \$11.8 billion). With three-quarters of mobile advertising revenue generated by iOS devices, the move to block ads on that platform could cost Google over \$8 billion per year.

Apple in QUOTES

What are people saying about the world of Apple?

Tim Cook

apple.com

"These operating systems do different things. We have no intention to blend them."

iOS and OS X may be similar but they aren't the same

Tim Bajarin

techpinions.com

"Within 5-10 years Apple could be the one that dominates all aspects of the business and consumer markets."

Respected industry watcher says what time it is

Eddy Cue

apple.com

"We're trying to fix it and we're making a little bit of progress but you've got to convince a lot of people."

Apple's Internet chief on roaming charges

Amy Bunszel

autodesk.com

"The iPad Pro is huge, it's fast, it's so clear... the 60 frames per second rendering is just tremendous."

Autodesk's AutoCAD VP says iPad Pro is a creative dream

Rumour ROUNDUP

The top 5 Apple stories we're talking about

01

Apple Car set for 2019?

Speculation that Apple will introduce a car is intensifying, with the expectation now being that it will arrive in 2019.

02

TSMC finally ousts Samsung?

The rumour that just won't die returns. Perhaps this really is the end of Samsung's Apple chip business.

03

Apple sets up MVNO

Claims that Apple will launch its own mobile network continue to circulate, but this doesn't appear an imminent plan.

04

Hexa-core iPhone chip in pipeline?

Apple's A10 chip could boast six cores and be built on a 14-nanometer process, according to reports.

05

Lord of the iRings

Apple has secured a patent for an iOS ring with a small display for notifications where the gemstone would normally be.

Apple Insider

Our industry expert rounds-up the biggest Apple corporate stories circulating this month



iPhone dials new record

With 13 million sales in three days, Apple's iPhone 6s set fresh first weekend sales records once again. Calling the sales "phenomenal", Apple CEO, Tim Cook, said they "[blew] past any previous first weekend sales results in Apple's history". Analysts think this is partly because the new phones initially shipped in 12 regions, including China, versus just 10 for last year's iPhone 6.

IHS expects Apple to ship 236 million iPhones this year, 22% up on 2014. "Apple has changed the smartphone market. People spend more on their smartphones now than they did pre-iPhone and Apple has grown its share of the premium market at the expense of Samsung, LG and others. They have shaped the market as an Apple market", said IHS analyst, Ian Fogg.

Apple rings Boeing's Bell

Apple has recruited former chief financial officer and corporate president of The Boeing Company, James A. Bell to its Board of Directors. Bell brings four decades of experience in finance, strategic planning and leadership to Apple. During his 38 years at Boeing, he also oversaw Boeing Capital Corporation and Boeing Shared Services, and was interim CEO of Boeing in 2005. Bell is a member of the boards of directors of JP Morgan Chase, Dow Chemical Company, CDW, and a Trustee of Chicago's Rush



Apple's gained another veteran from outside its industry.

University Medical Center. He has an interest in education and has worked with New Leaders for New Schools to help develop talented educators, and served on many community-based boards.

Siri calls on UK's VocalIQ

Apple has acquired UK speech technology startup, VocalIQ, a developer of self-learning natural speech-based user interfaces for applications including cars, wearables and internet-connected devices.

A previous VocalIQ blog wrote: "All major technology companies are pouring billions into building up of services like Siri, Google Now, Cortana and Alexa... Some ended being used only as toys, like Siri. The rest, forgotten. Unsurprisingly". Apple has said nothing beyond its standard response that it "buys smaller technology companies from time to time".

Stock watch

Clem Chambers, CEO of ADVFN, the leading stocks & shares website



> While Apple is building offices that look like spaceships, back on Earth the stock market is taking a pounding. The Nasdaq hit an all-time high in July, surpassing the levels of the notorious dotcom boom and crash, but since then US markets have had a nasty fall of 11%. This is not

a crash, which is generally regarded as a drop of 25%; this is correction considered to be just one of those things on the way to yet higher highs. On the day the low was much below the official close, so the actual drop intraday hit 16% off July's top.

By that rating, Apple hit 32% off its high, its \$10 recovery

that afternoon to \$103 masking the full extent of the rout.

Right now, Apple is \$110 a share, with two further \$10 peak to trough days swiping tens of billions of dollars of wealth in and out of existence. The stock market is getting wilder by the day and Apple will be a key stock in that drama.

Apple in PICTURES

The hottest pictures
from the world of Apple



Oscar nominee
Michael Fassbender
(*12 Years a Slave*) plays

Apple co-founder Steve Jobs
in the upcoming biopic from
Universal Pictures. The film
depicts Jobs' personal and
business struggles across
three major product launches,
from the Macintosh in 1984,
through his troubles at NeXT,
and culminating in 1998's
iMac launch. *Steve Jobs* opens
on 13 November in the UK.

Picks from THE STORE

We select the best apps
& games out there



On our APPLE TV

What we're watching on
the iTunes movie store



FILM

Mad Max: Fury Road

£13.99 (to buy) HD

➤ Tom Hardy's debut as the post-apocalyptic anti-hero has met with critical acclaim. It's certainly been worth the wait of almost 20 years to go from pre-production to screen.

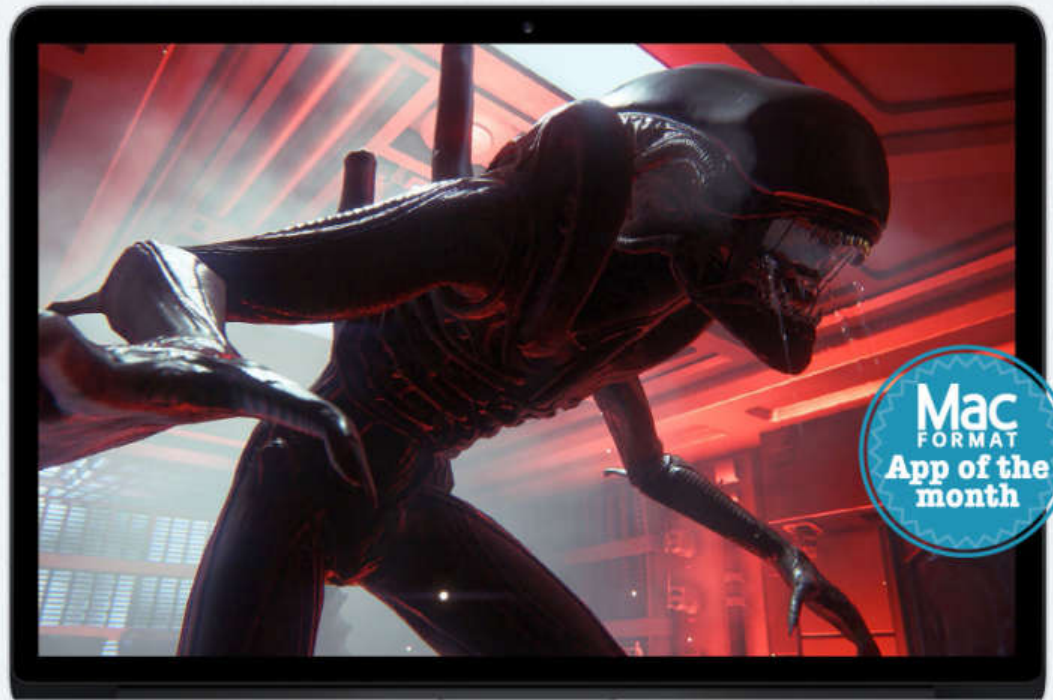


TV

Homeland Season Five

£24.99 (HD)

➤ Homeland makes a great drinking game: for each angsty expression on Claire Danes' face, down a shot. This year, she's moved to the CIA for private security. We're still not expecting many smiles.



*Alien: Isolation
cleverly inserts itself
into the film franchise
by making you play
as Ripley's daughter*

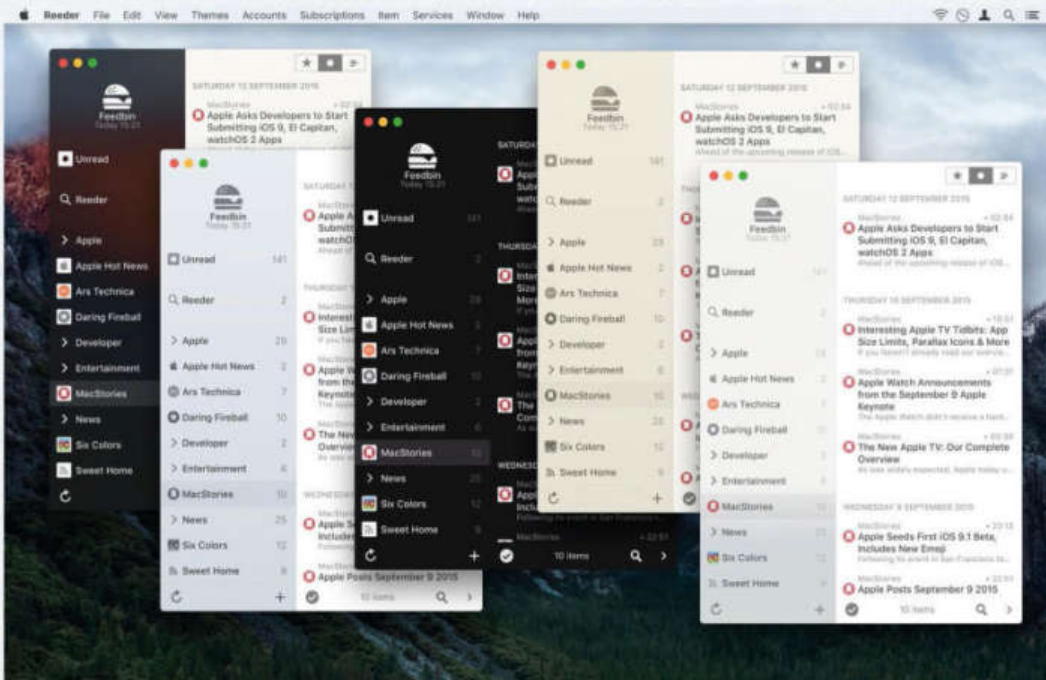
Alien: Isolation

£31.99 or £39.99 Developer Feral Interactive,
feralinteractive.com Requires OS X 10.10.4 or higher



After the lacklustre, semi-prequel film *Prometheus* left us with a bad aftertaste, a continuation of the main *Alien* story is just what we needed to wash it away – and here it is in game form. *Alien: Isolation* cleverly inserts itself into the franchise by assigning you the role of Amanda Ripley, the daughter of Sigourney Weaver's character from the film.

Seeking answers to why her mother never returned home, Amanda arrives at a space station that has recovered the flight recorder from the *Nostromo*, the ill-fated vessel from the 1979 film. Get the expanded edition, *Alien: Isolation – The Collection*, and you'll get two missions that recreate moments from the classic film. Will you turn out to be as brave as Ripley, or will the sheer terror of the xenomorph leave you with a stomach upset?

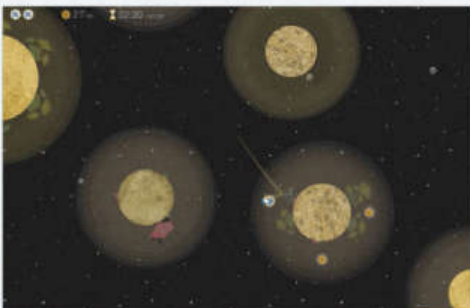


Reeder 3

£7.99 Developer Silvio Rizzi, readerapp.com
Requires OS X 10.10 or higher



Released too late for inclusion in our group test of newsreaders (see page 99), Reeder 3 has been given a new look that fits better with El Capitan, intelligent hiding of smart folders with no new items to read, and a private browsing mode. One of the simplest additions – support for sharing extensions – may be the most important thing for you.



Astrá

£2.29 Developer Fabuloso, fabulosogames.com
Works with iPhone, iPod touch, iPad



Remember Angry Birds Space and its little planets where you perform gravitational slingshots to get across them? Well, Astrá takes that game mechanic but places it firmly in the platform genre. The game's Greek mythology theme has you play as Hemera, the goddess of daylight, set on an adventure to fight darkness across the heavens.



The Earth by Tinybop

£2.49 Developer Tinybop, tinybop.com
Works with iPhone, iPod touch, iPad



Tinybop has been producing great interactive apps for children for years, with subjects ranging from the human body to flying machines. Here, it's the turn of the Earth and its processes. You wander through a beautifully illustrated planet Earth stopping to watch animations unfold of volcanoes, shifting tectonic plates and the paths of rivers.

It's both playful and educational, all produced in Tinybop's trademark style. So whether you're into pre-Pangea or today's Earth, this app is just the thing to get kids really interested in our world.

On our PLAYLIST

What's on the office speakers



MUSIC
Ane Brun,
When I'm Free
£8.99 (standard edition),
£9.99 (deluxe edition)

➤ Brun's seventh studio album is awash with gorgeous vocal performances that are infused with more of a pop sensibility than usual. Highlights of the album are its opening track *Hanging*, an ode to feminist forebears in *You Lit My Fire*, and the gentle folk sound of *All We Want Is Love*.



PODCAST
Limetown

Free

➤ You've heard of podcast mini-series *Serial* which became a hit thanks to social media? Well, *Limetown* ramps up the drama with its fictional tale looking at an investigation into how 300 men and women disappeared from a small town in Tennessee. In the seven-part podcast you'll get right into the heart of the investigation and all the horrors that are uncovered.

One more thing...

I'D LIKE TO TEACH THE WORLD TO... WHAT?

Apple wants to turn its retail stores into learning hubs and to teach coding. What's wrong with that?



Tim Cook has repeatedly stated his belief that Apple should aim to make the world a better place, and he's put Apple's money where his mouth

is: for example, in September Apple made a sizeable donation to help the EU refugee crisis and offered to double up on Apple employees' donations too. But money isn't all that Apple's offering. In a rare interview, Apple retail boss Angela Ahrendts has outlined plans to make Apple Stores into hubs, community centres that offer help to people. One of the examples she gave was teaching women and ethnic minorities to code.

What Apple is describing is philanthropy, which is when the very rich use some of their money or resources to try change the world in some way. From Andrew Carnegie's libraries to Bill Gates' battle against malaria in developing countries, to Steve Wozniak's donations of money and personal time to IT in local schools, philanthropy can do an enormous amount of good. But there's a downside to it too, and it's a simple one: who pays for the things that aren't lucky enough to catch the philanthropists' attention?

Teaching people to code is undoubtedly a good thing, but it's a little self-interested too: the people Apple teaches to code today could become the Apple engineers of tomorrow. What about teaching people to read instead?

Apple teaching people to code is undoubtedly a good thing, but it's a little self-interested too



US public schools are in crisis after nine consecutive years of cuts. A little Apple money there could go a very long way.

This isn't 'whataboutery', the internet tactic where anything good is damned by saying "yeah, but what about...?" It's about whether Apple is the best judge of which things deserve funding. We already have organisations to do that: they're called governments, and the money they have – or don't have – to spend comes largely from the tax that firms such as Apple, Google and Microsoft pay or don't pay. Just 11% of US tax receipts come from corporate taxes, and the amount has been falling for years; Bloomberg reports that US tech companies – not all companies, just tech ones – are currently and completely legally "stashing" \$2.1 trillion

overseas to avoid paying tax. That sum is the same amount as the entire US tax take for 2010. \$2.1 trillion would pay for social security and health care with money left over. It's four times the defence budget, and five times the budget for unemployment compensation and food stamps.

Tim Cook and Angela Ahrendts seem to be good people, with good hearts. But if Cook really wants Apple to "leave the world a better place than we found it", he could take a look at changing Apple's accounting practises as well as its retail outlets.

Freelance journalist Gary Marshall used to work as a tech trainer. "Novell NetWare and Windows 3.11", he recalls – with a shiver.



Introducing Blackmagic URSA Mini, the lightweight Super 35 4.6K digital film camera with 15 stops of dynamic range!

Introducing URSA Mini, a handheld Super 35 digital film camera with an incredible 4.6K image sensor, global shutter and a massive 15 stops of dynamic range! The super compact and lightweight design is perfectly balanced, making it comfortable enough for all day shooting. URSA Mini lets you shoot at up to 60fps, features a 5" foldout viewfinder, dual RAW and ProRes recorders, and more!

Incredible 4.6K Sensor

URSA Mini can capture images at a resolution and dynamic range that goes well beyond that of traditional motion picture film so you can shoot your own epic, cinematic masterpiece! You can capture images up to 4608 x 2592, which is larger than 4K DCI, with 15 stops of dynamic range so you get incredibly clean pictures with amazing detail in everything from the darkest shadows to the brightest highlights! URSA Mini can record 4.6K at up to 60fps, or 1080 HD at up to 120fps.

Lightweight and Portable

URSA Mini's perfectly balanced body is made out of space aged magnesium alloys so it's rugged, yet lightweight and comfortable enough to be used all day. You get a super bright 5" fold out touch screen for on-set monitoring, that can also display overlays for timecode, histograms, audio meters, focus peaking and more! URSA Mini features full size, professional connectors, even 12G-SDI, so you don't need custom cables, plus high quality stereo microphones and a side grip mounted on a standard rosette.

Completely Customizable

Blackmagic URSA Mini is completely customizable so you can create a rig that's built specifically for your production! Add accessories like the Blackmagic URSA Viewfinder and Blackmagic URSA Mini Shoulder Kit, or choose from hundreds of third party accessories. URSA Mini has 9 standard 1/4" threaded mounting points on the top and bottom of the camera so you can mount it directly to a tripod as well as add accessories such as rails, matte boxes and more.

Non-Stop Recording

You never have to stop recording because URSA Mini features two CFast 2.0 recorders! When one card is full, recording automatically continues onto the next. URSA Mini uses the latest, incredibly fast CFast 2.0 technology for recording speeds up to 350 MB/s. Wide dynamic range images are saved as 12-bit RAW files, which are perfect for high end grading and effects work, or as broadcast quality ProRes, for easy post production workflows with minimum storage requirements!



Blackmagic URSA Mini Models

Blackmagic URSA Mini 4K EF	£2,025*
Blackmagic URSA Mini 4K PL	£2,359*
Blackmagic URSA Mini 4.6K EF	£3,355*
Blackmagic URSA Mini 4.6K PL	£3,699*

All models include DaVinci Resolve 12 Studio

www.blackmagicdesign.com/uk

*SRP is Exclusive of VAT. Electronic Viewfinder, lens and accessories sold separately.

GADGETS

Hot gear on the horizon... what's got us excited?



WE'RE MOST EXCITED ABOUT...

SHARP 8K TV

£86,000 sharp.co.uk

*Suddenly that 5K
iMac doesn't seem
so impressive, but
you'd need a serious
TV cabinet!*

What is it? 4K TVs are so last year. If you really want to be at the bleeding edge of display technology, you'll need to go a bit better than that. Just as well, then, that Sharp has announced that it's working on an 85-inch 8K TV that will set you back a cool £86,000. Suddenly that 5K iMac doesn't seem so impressive, but you'd need a serious TV cabinet to house this one!

When's it due? TBC.

Why are we excited? High resolution displays are developing at an astonishing rate, with previously impressive resolutions moving further and further down the scale. But do we need 8K? Is it even practical? Probably not, but we're geeks so it's already given us sweaty palms and heart palpitations.



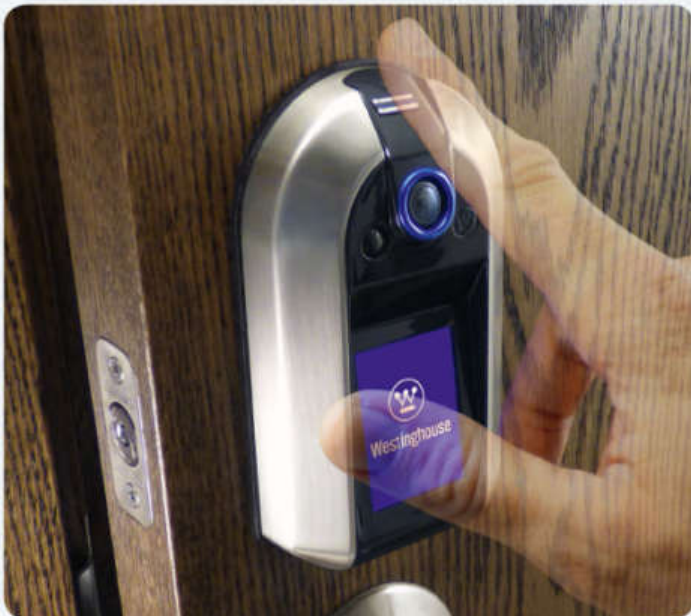
Devialet Silver Phantom

£1,690 en.devialet.com/phantom

What is it? This is one of the most unusual speakers we've seen; we can't decide whether it looks more like a huge metal pill or a futuristic cannon. Whatever you liken it to, it looks stunning. Boasting wireless, multi-room playback, it's a great way to hook up your home audio – if you fancy dropping more than £3,000 for two!

When's it due? Available now.

Why are we excited? Devialet claims it eliminates background noise, distortion and saturation up to 3,000 Watts. It's a 360 degree speaker and is packed with high tech features (Devialet has even written a white paper on it). Better start saving now.



Westinghouse Nucli

From \$338 (about £220)

westinghousesecurity.com

What is it? Where to start with Nucli? It's a smart lock that does away with keys by letting you unlock a door with your fingerprint. No need to worry about forgetting to lock the door, as Nucli does that for you, and it can show you who is at the door and even lets visitors leave a voice message – sent to your iPhone – if you're out.

When's it due? Winter 2015.

Why are we excited? No more panicking when you lose your house keys – you don't even need them with Nucli. Its security features and useful iPhone app should ensure greater peace of mind and control over your home – whether you're there or not. We can't wait to try it.



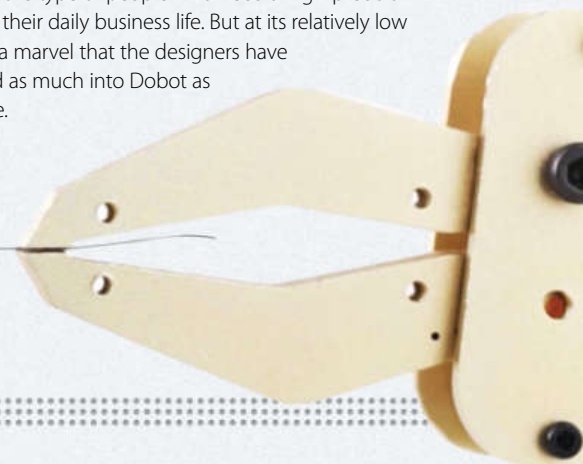
Dobot

From \$499 (about £330) dobot.cc

What is it? A robot arm for all! The Dobot's designers claim a whole range of uses for it: designing and building products, feeding pets, teaching children calligraphy and more. It's remarkably accurate for such an affordable device, with a measly error margin of about 0.2mm.

When's it due? Available December 2015.

Why are we excited? Although its makers insist it's a tool for everyone, we feel it is best suited to small businesses and crafters – the type of people who need a high-precision device in their daily business life. But at its relatively low price, it's a marvel that the designers have crammed as much into Dobot as they have.



Ōura

\$299 (about £190) ouraring.com

➔ **What is it?** Ōura's makers describe it somewhat inelegantly as a "ring-sized wellness computer", but that's a pretty accurate description. It takes all kinds of measurements, from your heart rate and temperature to your sleep quality and activity intensity. It then analyses the info, feeds it back to you and suggests ways to improve your lifestyle.

When's it due? November 2015.

Why are we excited? It's subtle and unobtrusive, but beneath its modest exterior lies a plethora of high tech smarts. If it can help you sleep and work better then it could be an ideal companion to Apple Watch's health and fitness apps. One ring to rule them all!



Think different

Decidedly off-the-wall



Mocoro Robot Cleaning Ball

£24.99 firebox.com

➔ **What is it?** Like most things in life, vacuuming is best performed by bizarre robots, so put down the Hoover and get yourself an efficiently-named Mocoro Robot Cleaning Ball. Despite appearances, it's not a giant, fluffy scotch egg, although just to be safe the retailer does actually point this out. **When's it due?** Bust some dust right now. **Why are we excited?** When switched on, the ball wobbles around your room picking up dust and dirt. If it hits a door or obstacle, it changes course and goes on its merry way. It's more of a bit of fun than a serious household appliance, obviously, but who says housework should be boring?

Acton R10 RocketSkates

From \$499 (about £330) rocketskates.com

➔ **What is it?** Remember those kids' shoes with wheels in the heels? RocketSkates are like those on steroids. These motor-powered boots fit over your shoes and zip you along at 12mph. Never mind walking, this is how we want to get to work.

When's it due? Strap a pair on now!

Why are we excited? So it's a bit childish, but what's wrong with having a little fun? RocketSkates come with an app that lets you track metrics like your speed and distance travelled, and even enables you to control the skates remotely – perfect for the mischievous pranksters out there.



Maximas XTRON

\$99 (about £65) maximas.mobi

➔ **What is it?** There aren't many USB-C power banks out there for the new 12-inch MacBook, but this one from Maximas looks ace. It can charge two MacBooks simultaneously, or a MacBook and an iPad at the same time, giving you plenty of juice on the go.

When's it due? Grab one in February 2016.

Why are we excited? It uses the same type of Panasonic battery cells that are used in Tesla's electric cars, and with a capacity of 13,400mAh they should provide plenty of power to your MacBook. It all fits in the palm of your hand, too, so you can just pop it in your bag whenever you take your MacBook out and about.



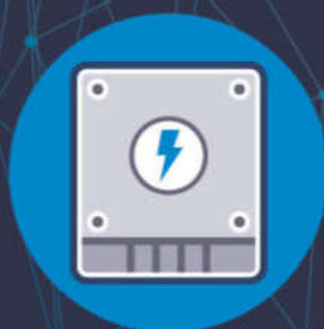


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What the pros think of...

iPad Pro

It's Apple's biggest ever iPad, but has the Pro won over the creative professionals that it's aimed at?

Words: Alex Blake Images: Apple

In the months-long run up to Apple's 9 September 'Hey Siri' event, there was one rumour that just would not die a quiet and dignified death: that Apple was working on a gargantuan 12.9-inch tablet christened the 'iPad Pro', designed for creative pros and replete with stylus, the bane of one Steve Jobs. "If you see a stylus, they blew it", he famously quipped. Apple must have a short memory.

The inclusion of the pressure-sensitive stylus – or Pencil, as Apple has imaginatively named it – suggests the Pro is aimed squarely at illustrators, artists and designers – those for whom a trackpad or mouse are just not accurate enough. But what do those who work in these professions think of the oversized tablet? Will it become a must-have tool for the busy creative, or a rare stumble from a company that is not accustomed to making mistakes? And furthermore, should creative types really consider getting one?

To get to the bottom of the issue once and for all, we asked a group of creative professionals to find out exactly what they thought of what Tim Cook called "the clearest expression of our vision of the future of personal computing".

The iPad Pro was the worst-kept Apple secret since every other product Cupertino ever launched. We all knew it was coming, but that didn't stop us getting excited for its 12.9 inches of pressure-sensitive, Retina-flaunting, power-packing glory.

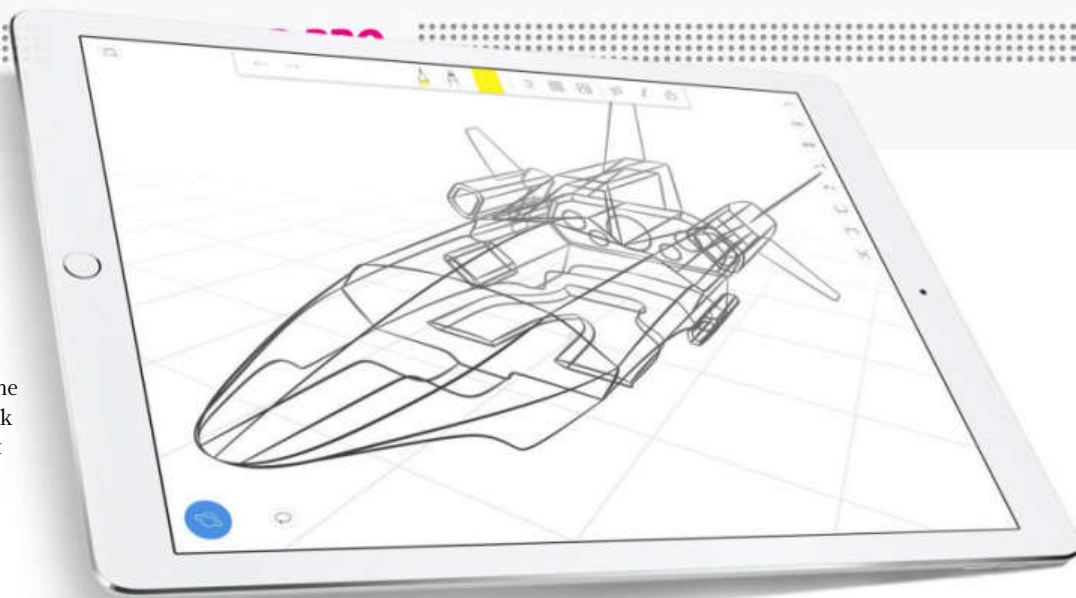
That's all well and good, but outside of the Apple event bubble, what do creatives think of it? For Adam Dewhirst, Senior 3D Artist at The Mill, it's all about the portability.

"I think its screen resolution coupled with its weight and portability are its most appealing aspects", he says. "It's the right size for digital art and it's incredibly easy to just grab and go for a device that size. By comparison, the Wacom Cintiq Companion is over double the weight and much bulkier".

Freelance digital artist Nikolai Lockertsen agrees, but goes further, citing the addition of a stylus as being a key selling point for the new device: "The big screen with such high res will be fantastic to work on. A sensitive stylus that is created with and for iPad Pro should work flawlessly."

"Something every artist wants"

That is one of the most interesting reactions to the iPad Pro among creatives – every artist and designer we spoke to agreed that Apple was right to finally reverse its long-standing opposition to digital drawing implements. Rob Redman, CG artist at Pariah Studios, was typical of this response, arguing that it is about Apple responding and adapting to a world it has had huge influence over for so long. "There is nothing wrong with sticking to your guns to an extent", he says, "but the world is a fluid,



changeable place and the market will dictate what users want. Jobs was pretty good at predicting and even shaping things but there is definitely room for a stylus input".

"It's something that's been lacking from Apple products", adds Dewhirst. "If anything I think I'm more interested in the Pencil than I am the iPad Pro itself".

Lockertsen puts it another way. "If you ask a painter if he [would] rather use a painting brush to work with or a finger, any artist wants to use a stylus", he argues. "We grow up with crayons and pencils. Painting with a finger works, but it is not natural for us. And pressure sensitivity is something every artist wants".

Steve Jobs may not have been a fan of the stylus, but he was speaking of technology that was nowhere near its potential being used on fledgling smartphones a tiny proportion of the size of an iPad Pro. The Apple Pencil will be used in a totally different context by a totally different user base – a user base that seems to be very keen on the idea.

A must-have accessory?

The question posed by the iPad Pro's emergence is simple: should artists get one? Is it an essential professional tool or an unnecessary gizmo?

Well, that very much seems to depend on what line of work you're in. For Lockertsen, the answer is obvious. "I work full time as a concept artist in the film

If you mainly work on iPad already, you may find that the iPad Pro is well suited to your needs.

industry and I only use the iPad to paint on and Procreate as the app", he explains. "For me, this is Christmas and birthday in one". But as an artist who works almost exclusively on an iPad, Lockertsen's experience may not reflect that of others in the industry, and for Dewhirst the answer is not so straightforward. "It's a tough question", he says. "I may get one, but let's be honest – it's not the same price as the current iPad, which I have bought on a whim before.

"A sensitive stylus that is created with and for iPad Pro should work flawlessly"

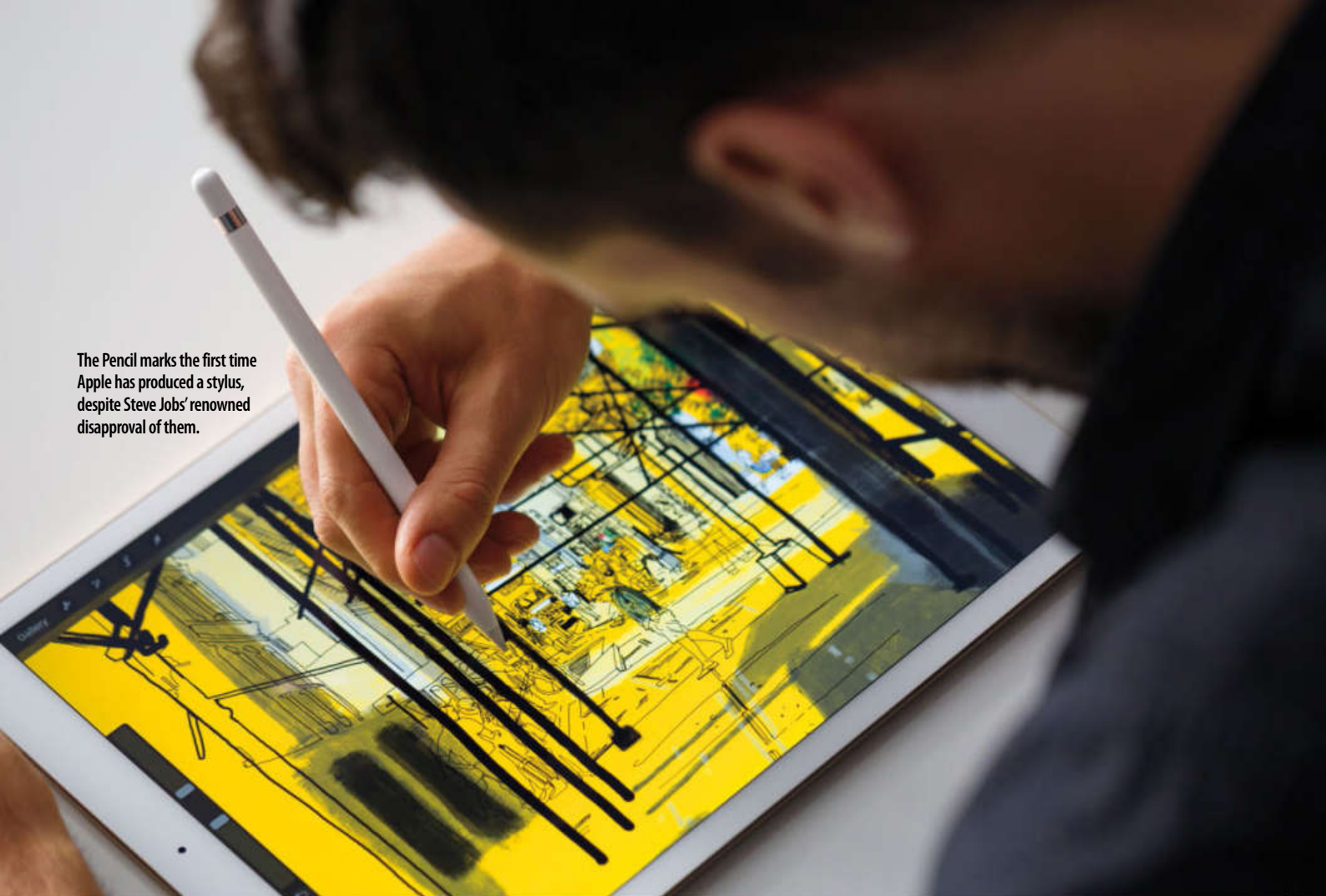
It's a real investment, especially if you want the Pencil and the keyboard too – and let's face it, you do!"

The pros we spoke to were also split over whether it could replace their Mac in a work capacity – again, it largely hinged on what type of work they were involved in. For Lockertsen, the freelance illustrator, the answer is a firm yes: "The iPad has for me already replaced a desktop computer in 80% of what I do. The rest of the 20% I do [is] mostly film editing. The iPad Pro is supposed to handle film editing very well, so I could probably convert fully to iPad Pro."

For our 3D artists, however, there was no possibility they could make the switch, even with the iPad Pro's extra power. "Absolutely not", says Dewhirst. "Don't get me wrong, there are some 3D modelling and sculpting apps out there, but they would only help me [go] so far, and to be honest, it's still a fair distance

There's no need to pair the Smart Keyboard with the iPad Pro – just attach it and you're ready to start typing!





The Pencil marks the first time Apple has produced a stylus, despite Steve Jobs' renowned disapproval of them.

away from what I need to be doing.”

Redman agrees, arguing that the iPad Pro just isn't ready to replace his desktop computer yet. “The iPad for me is a tool for travelling with”, he says. “I can't see a time when my 3D work will go mobile but for sketching [and] blocking out storyboards, it could be perfect”.

iOS or Windows?

Justifying the price tag remains a key hurdle for Apple. While the iPad Pro comes cheaper than many of Wacom's Cintiq tablets, it also lacks the flexibility of its rival's products. Cintiq supports Windows, which allows it to run fully-fledged graphics software like Adobe Photoshop. The iPad Pro, in contrast, runs iOS and is therefore limited to the apps that are available on that platform. That in itself is enough to put many people off.

For all Apple's talk of the iPad Pro being a device for artists and creatives, iOS is the elephant in the room. That precludes the use of apps like Photoshop and ZBrush – key tools for artists in their droves. For Dewhirst, that's a deal-breaker: “It's a nice tool for remote working to a small degree... but could I do the same level of work I would normally do in the office? No”.

“The trouble is more to do with software than anything else. I just can't do what I need with the current range of apps compared to the range of ability of something like

Autodesk Maya”, he adds. What could fix this issue? In Dewhirst's opinion, shipping it with OS X; without that, it's not a viable option for him: “Ultimately, if I'm looking for a mobile tablet device and I have a choice between this and, say, the Surface or the Cintiq, I'm not going to pick the iPad. It can't compete because it's not able to – simple as”.

That isn't an issue for Redman because he doesn't envisage using an iPad Pro for heavy duty work: “I'm not really interested in taking a full Windows machine round with me. I'd feel too much like I was in the studio and need to do heavy lifting work. [It] kind of defeats the point of [the iPad] for me.”

“I like the fact that iOS devices are lightweight, in both OS as well as hardware”, he reasons. While the iPad Pro could potentially compete with the Surface Pro, Microsoft's tablet is a “different beast”, according to Redman.

Slated for success

As Apple's global stature grows to ever more dizzying heights, the company is finding it increasingly difficult to keep its new products and projects tightly under wraps. Few were surprised by the iPad Pro's announcement. But perhaps we shouldn't have been anyway – Apple has appealed to creative professionals for so long that it was surely a matter of time until

it dipped its gold-encrusted toes into the fertile springs of the graphics tablet market.

But for all its creative street cred, perhaps even Apple can't count on the iPad Pro's inevitable success. Our artists offered mixed support for the supersized slate – while there was much support for the effort, for some the device just isn't an essential tool. There was a sense among them that the iPad Pro is still a work in progress, something for the storyboard rather than the showreel.

So should you get one? If you're creating work on the fly and use an iPad already for much of your creative output, then yes. But if our artists left you less than convinced, it may be best to wait for further developments – and see what Apple surprises us with next.



The new A9X processor has enough grunt for the iPad Pro to handle just about anything you throw at it.

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OS X El Capitan

75

HIDDEN SECRETS OF APPLE'S NEW OS!

*All-new Split View, improved
Spotlight search, rich Notes
and much more...*



Words: Lucy Hattersley, Alan Stonebridge

Apple's latest update to OS X, El Capitan, takes its quirky name from a vertical rock formation in Yosemite National Park. Like its namesake, El Capitan rises from Yosemite, the version of OS X it replaces, building upon its solid foundation to deliver a stronger operating system that's packed with feature enhancements.

In many ways, El Capitan is like a modern version of Snow Leopard, the 2009 version of OS X in which Apple introduced hardly any new features. Instead, it rewrote underlying code and focussed on improving performance for the long term. However, that doesn't mean there are no new features in El Capitan. Far from it. There are some real gems to discover, both in plain sight the moment you start using it and as you dig deeper – but you don't need to go looking because we've picked out dozens so you can make the most of your new system right away.

You can add all sorts of things to the new Notes app, from audio recordings to checklists to website links, making it far more capable as a scrapbook. Mail works much better in full-screen mode. And, Safari gives you a way to silence intrusive sites and to pin open sites you use often, so they're accessible in an instant with a keyboard shortcut.

Changes in the Photos app, introduced into OS X in early 2015, make it more convenient and more powerful, not least thanks to the new ability to use third-party editing tools within it. This saves you the hassle of having to exporting pictures when you want to do anything remotely ambitious with them.

The Mac also takes great strides in window management thanks to a much improved Mission Control and the all-new Split View mode, which enables two apps to run side by side, hiding other Desktop distractions so you can focus more clearly on the task at hand.

There are many great new things to learn about in OS X El Capitan, so let's get started...



Spotlight

Get better – and more – answers than ever before from OS X's built-in search engine

Apple is determined to make Spotlight the go-to place for finding anything using your Mac. Not just files and folders, but also online information, weather reports, your contacts and much more.

In recent years, Apple has started to blend search results from the internet with the ones from your Mac, adding a few new sources to make Spotlight more effective at answering a range of questions.

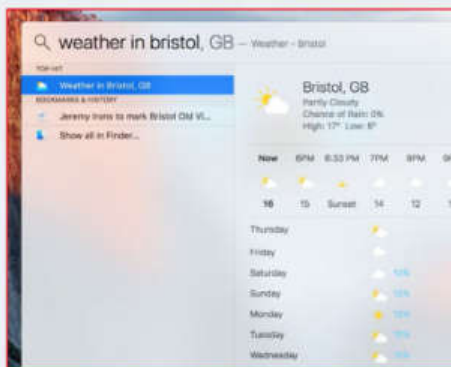
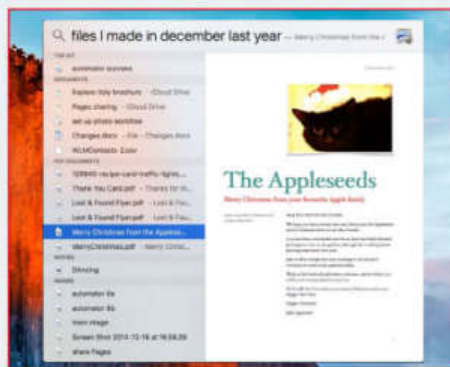
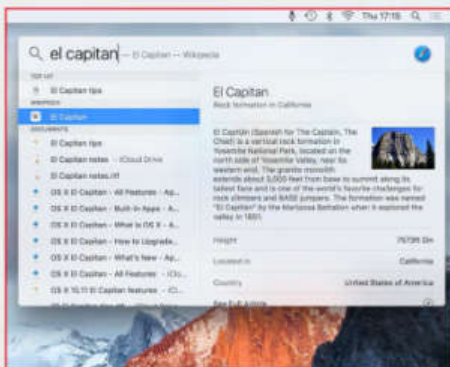
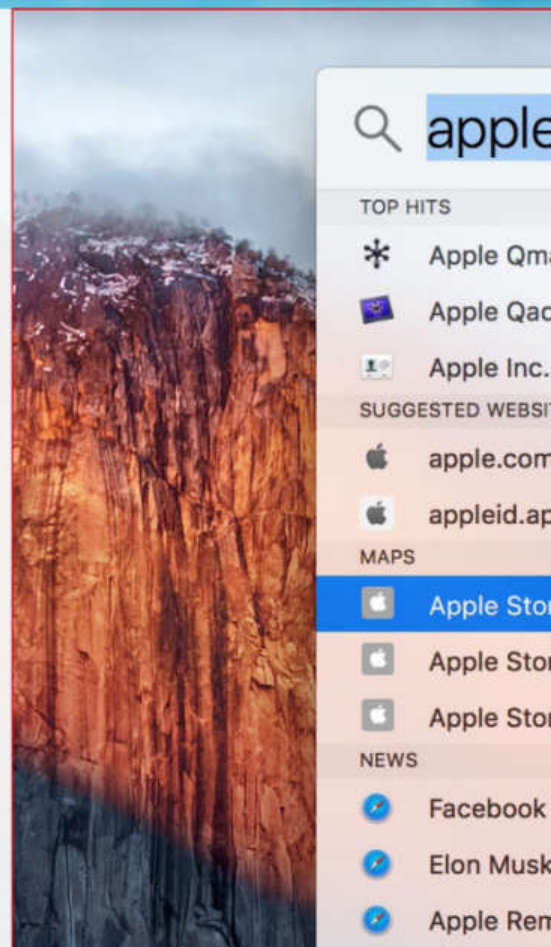
El Capitan gives you the ability to find certain things – files, folders and email – by expressing yourself using natural language. Spotlight then interprets your meaning to give you more accurate results, such as files you worked on a week ago when you want to continue a project.

One small but very welcome improvement is that you can also move the Spotlight window around. Once the window is showing

results, you can resize the window's height to show more results – important now that Spotlight can search many more sources, including various online services.

Among them is weather – you only need to enter that word to get results for your current location, though you can easily look up the forecast for other locations, too. Like Siri on iOS devices, Spotlight can look up team standings and upcoming fixtures when you enter the name of your favourite football team. It even looks up stock values, though how useful you'll find that depends on your opinion of the iPhone's equivalent app.

While Siri remains lamentably absent from OS X, you can use your Mac's Enhanced Dictation feature – and either a double-press of a key or, thanks to a returning feature from Yosemite, a spoken key phrase to trigger it – to open and control Spotlight. Read on to find out how to do all of these things...



1> Move and resize

Spotlight's window is no longer a fixed in size or position. First press **⌘+Spacebar** to open Spotlight, then enter your request. With some results shown, you can click and drag from the areas either side of the search field to reposition the window. The window can be resized from its top or bottom edge (remember that you can hold **⌘** to resize in both directions at once).

2> Reset Spotlight

After you have repositioned it, the box will appear in the same place the next time you press **⌘+Spacebar**. To reset the window's size and position, click and hold on Spotlight's icon in the menu bar.

3> Find files using natural language

Rather than using arcane syntax to restrict the kinds of files that Spotlight returns, the Mac's built-in search engine is now smart enough to infer some meaning from what you enter. It can make sense of phrases like 'photos from last week' or 'messages to Kate'.

You can also express yourself this way in Mail. However, Apple only states that you can use natural language there and for file searches in Spotlight; you might find that you can use specific phrases in other contexts (see next step), but we've found that Spotlight isn't quite intelligent enough to recognise simple variations.

4> Weather and other info

Weather, stock prices and sports fixtures and results are key categories that have been added to Spotlight's search results. Just enter 'weather' to get a ten-day local forecast for your local area, or specify a location, such as 'weather in Glasgow'. Spotlight isn't so flexible here as it is for file searches; deviate too much and it won't understand. It returns sports fixtures and match results when you type a team name, but only for American and Premier League football, basketball, ice hockey and baseball. To look up stock market information, enter the word 'stock' followed by a company name or its stock symbol – AAPL, BT or TSCO, for example.

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Besides things like Maps, Spotlight now connects to more online data sources so it can find web videos, weather and sports results.



5> Web video

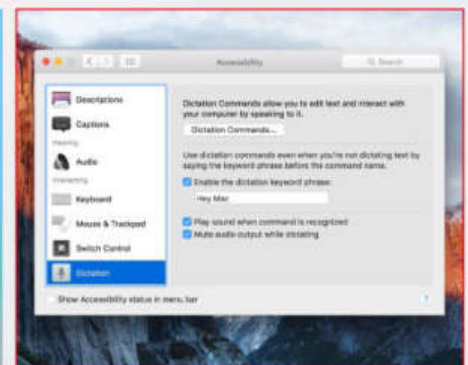
Search results can include videos from the likes of YouTube, Vimeo and Vevo under the Web Videos category (but only if 'Allow Spotlight Suggestions...' is on in Spotlight's preferences). With one of these results selected, the video's description, duration, date uploaded and number of views are displayed. Clicking the result takes you to the video in Safari.

With so many different kinds of result shown in Spotlight, keyboard navigation can be more important than ever before. So, remember that holding **⌘** when pressing the **⬆** or **⬇** key jumps to the first result in the next category in the corresponding direction.



6> Speak your terms

The continued absence of Siri on the Mac is disappointing. A trick to smooth things over is to combine Spotlight's natural language search with OS X's Enhanced Dictation feature, so you can speak your search terms directly into Spotlight. First turn on Enhanced Dictation in System Preferences > Dictation & Speech. When the required download completes, press **⌘** + **[Spacebar]** to open Spotlight, and double-tap **fn** to open to open dictation. Speak your search terms and results will appear; you can keep saying words to refine them. Double-tap **fn** again to stop dictating and use Spotlight's keyboard shortcuts to browse the results.



7> Voice control

Saying what you're looking for isn't the limit of using your voice to interact with Spotlight. El Capitan includes new Dictation Commands for navigating the Spotlight window. In System Preferences, go to Accessibility > Dictation > Dictation Commands and check the box labelled 'Enable advanced commands'. This adds additional commands to the Navigation category, for selecting the next or previous result, opening the one that's selected, and for scrolling up and down through the preview shown on the right of Spotlight's window. Click a command in this pane to see variations on the listed phrase that you can use instead.



A new look for Notes

Make notes that contain almost anything, including checklists, online research and voice memos

El Capitan's revised Notes app enables you to add almost any kind of file to your notes **8**. You can even add audio and video files directly inside a note, and play them back there too. **9** A neat trick is to record audio notes in QuickTime and attach them to notes. They show a play button, and they work on iOS.



The Attachments Browser enables you to view every file and piece of media you've attached to your notes. This makes it easy to find things visually. The browser's tabs enable you to switch between viewing documents, photos and videos, sketches, maps, websites, and audio. **10** Click an item to select it and then

press the spacebar to preview it in a Quick Look window, or double-click to open it in an appropriate app.

11 You can add a location directly from the Maps app to a note. Click the Share button then choose Notes. The Share sheet offers a choice of adding the location you're looking at to a new note or an existing one. You can add items from many other apps from the Share menu too, including web pages from Safari, which display the page title, the site address, a two-line summary and an icon or an image from the page. The Quick Look and double-click shortcuts work on maps and websites, too.


12 You can style the text in your notes using a range of

predefined text styles: Title, Heading and Body, as well as three different types of lists: bulleted, numbered and dashed. These styles make the app a far more effective tool for structuring long notes, making them an easier read.

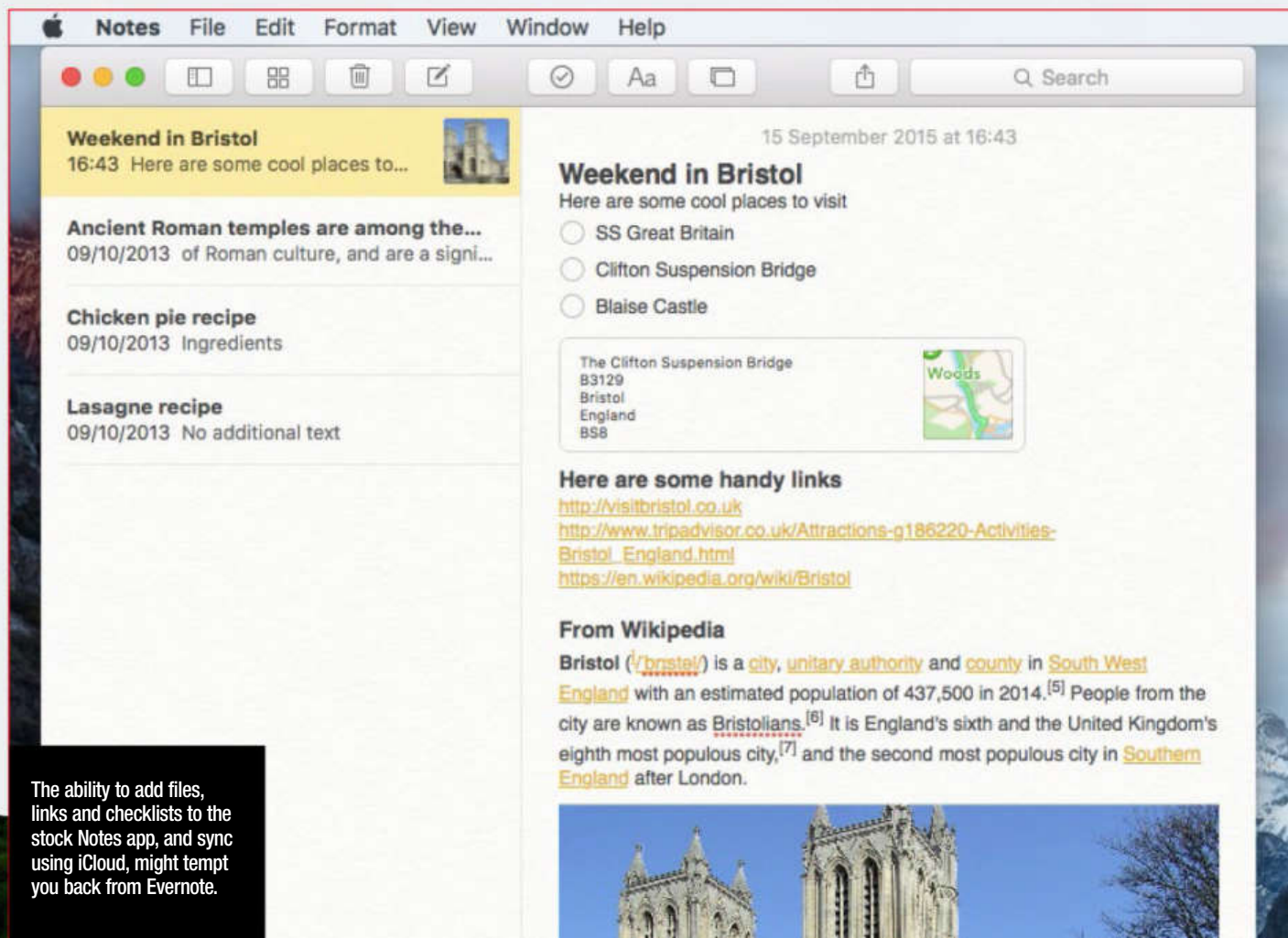
13 Click the button that shows a tick in a circle and a circle will appear at the start of the paragraph you're editing. This enables you to add a checklist of items, just like you can in Reminders. Each time you press , a new item is added to the list. To stop adding items, add an empty line and press  once more.

One slight disappointment is the lack of sketch facility in the Mac version of Notes. In iOS 9 you can draw sketches in

Notes, but on OS X you can't create or edit them; double-clicking a sketch opens it in Preview as a non-editable

14 Deleted notes are now moved to a Recently Deleted folder rather than being wiped immediately. You aren't prompted to confirm 'deletion'; pressing  or the button that shows a trash can moves a note to Recently Deleted, from which it's permanently deleted after 30 days. **15** Like in Mail, a long swipe left while the pointer is over a note in the list will delete it.

16 If the 'On My Mac' account in the folder list is redundant for you because all of your notes are synced to iCloud, it can be hidden from Notes' application menu.



The ability to add files, links and checklists to the stock Notes app, and sync using iCloud, might tempt you back from Evernote.

A top-down view of a wooden desk with various electronic devices and accessories arranged on it. The items include a large monitor, a laptop, a smartphone, a camera, a coffee cup, a potted plant, a framed sign that says "Create Your multimedia centre", a tablet, a CD, headphones, a small photo, a framed sign that says "Enjoy music", a framed sign that says "Enhance productivity", a movie case for "HOME", a small speaker, and two white storage units. The background is a light-colored wooden surface.

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Split View multitasking

El Capitan makes full-screen mode more effective to assist your productivity

Split View enhances full-screen apps by enabling you to display two apps side by side. Full-screen mode has always made sense on devices with small screens, like iPads and the MacBook Air, but its usefulness was less convincing on an iMac or other large display. Split View is designed to make it more practical on them as well, and it makes it much easier to work with two apps on any screen size.

Like full-screen mode for a single app, Split View hides the Dock and the menu bar, so you make use of all available space and remove many distractions. Rather than using a gesture to move back and forth between two full-screen apps, Split View improves productivity; you might put a text editor on the left and Safari on the right when researching a subject.

There are multiple ways to enable Split View. **17** Click and hold the green button at the top-left of any window that can be switched to full-

screen mode. You'll notice half of the screen displays a blue overlay (which depends on which side of the screen the pointer is on). Move the pointer to the side on which you want that app to appear, then let go. Other windows that are capable of switching to full screen then appear in Mission Control fashion on the other side of the screen. Click one of them to set it as the other half of that Split View workspace.

18 If you already have one app in full-screen mode, simply open Mission Control and drag a window from the centre over the Spaces bar at the top of the screen; when it expands to show previews of your spaces, drop the window onto an app that's already in full-screen mode to combine the two in Split View mode. See the page opposite for additional details of how Mission Control works in El Capitan.

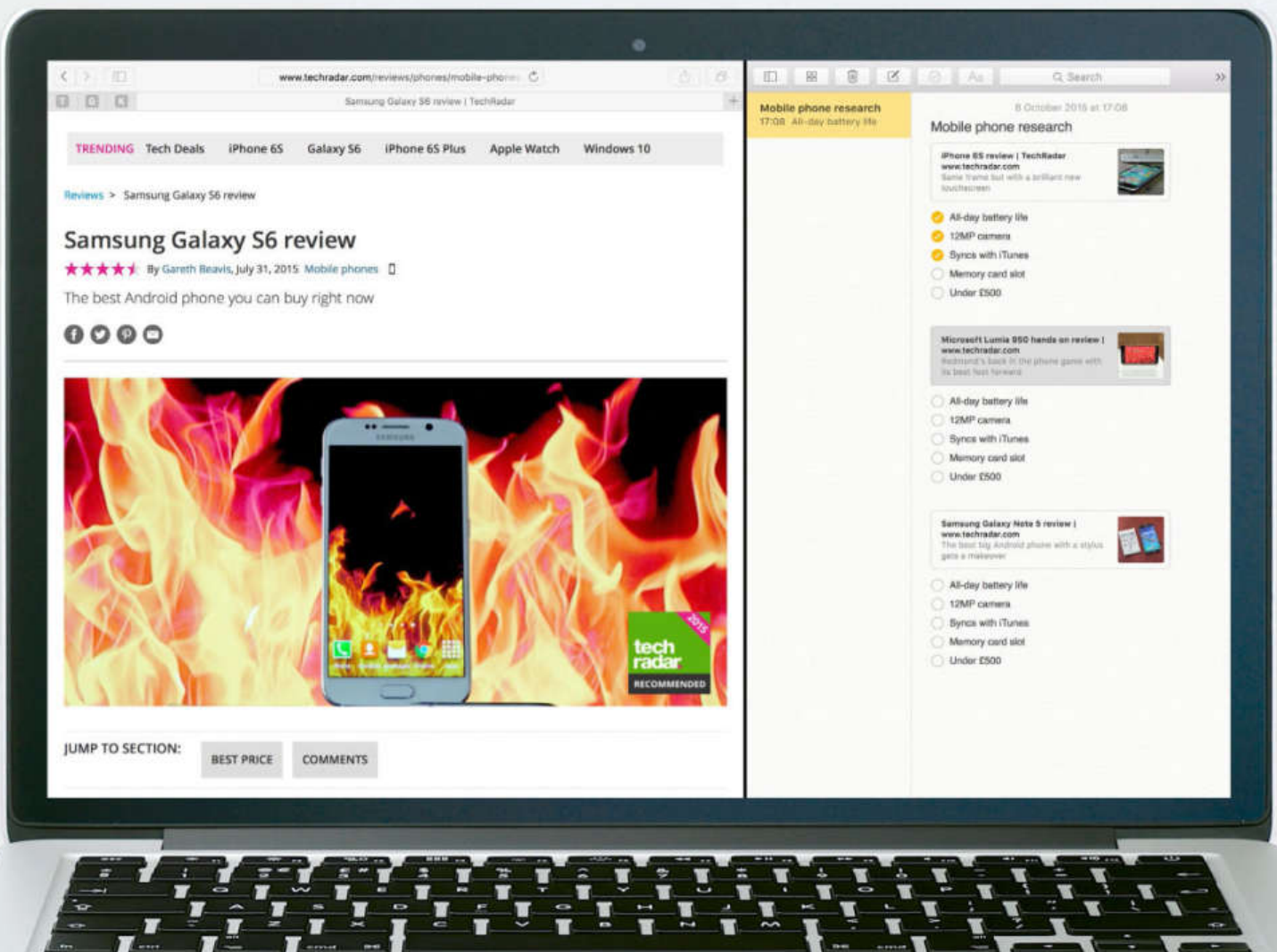
19 To take one app out of Split View, move the pointer to the top of the screen to reveal the menu bar and both apps' title bars, then click

the green button at the top-left of the title bar of the app you want to make a window again. The other app remains in full-screen mode.

You can adjust the space dedicated to each app by placing the pointer over the dividing line between them, so the cursor changes to show either a single-headed or a double-headed arrow. Drag this left and right to adjust the space allocation. **20** OS X automatically assigns what it thinks is a sensible split of the screen based on the apps you've combined. Whether you've adjusted the split yourself or you dislike OS X's assumption, double-clicking the divider snaps to an even 50% split.

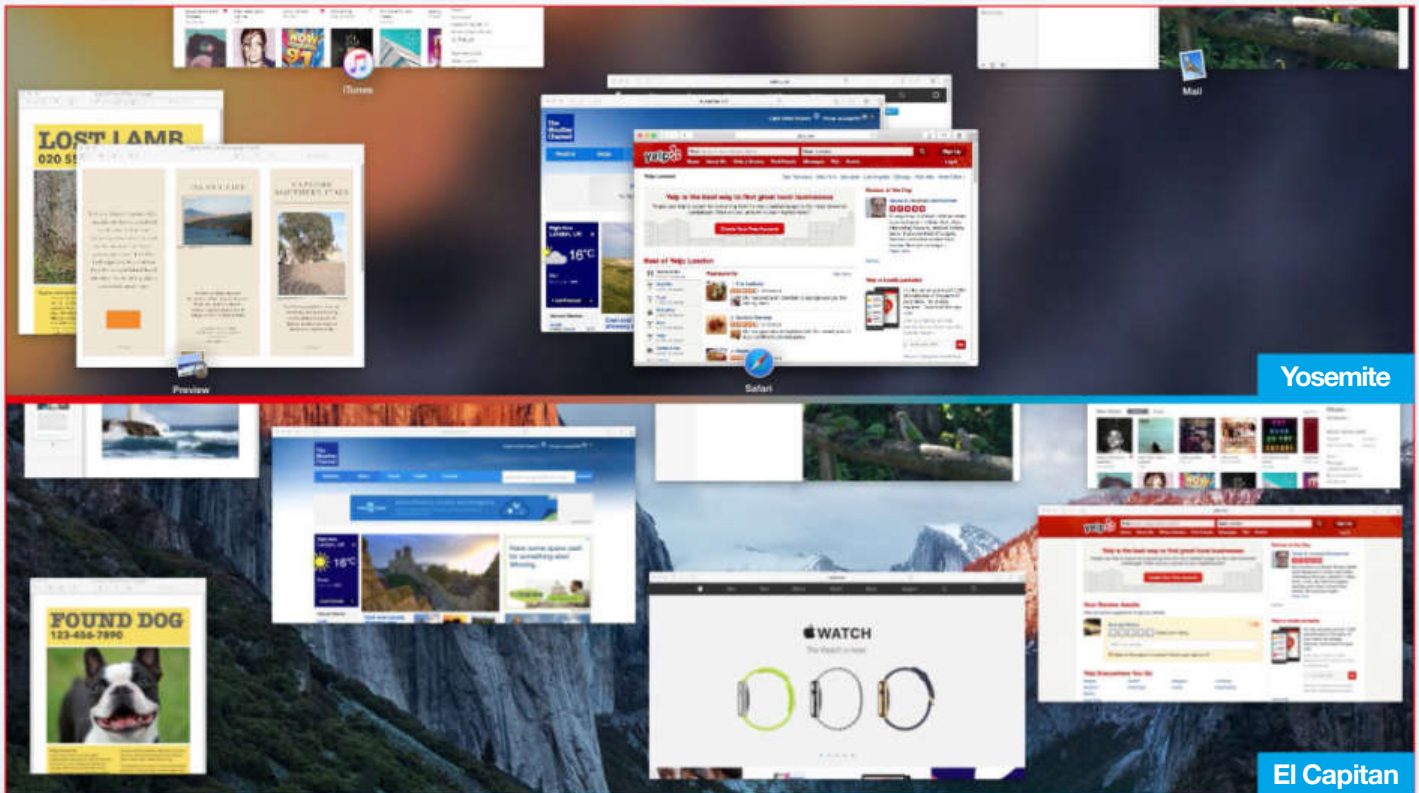
Irrespective of the apps you combine and the width of your display, Split View can display no more than two apps together.

The one sour note for Split View is that it requires apps to support full-screen mode. Older versions of Adobe apps and Microsoft software doesn't support it.



Window management

Managing windows and full-screen apps is easier than ever with El Capitan's enhanced version of Mission Control



Mission Control in Yosemite (top) cascades windows from the same app together. In El Capitan (bottom), every window gets a full preview. The Spaces bar has also been reduced to give more space to app previews.

Apple has reintroduced a more helpful layout as a default setting for Mission Control. Windows are now spread out, with no overlaps, rather than stacked up according to the app they belong to, making it easier to find the one you want. **21** You can return to having windows stacked up (Yosemite's default) by turning on 'Group windows by application' in System Preferences > Mission Control.

22 A new gesture for opening Mission Control cuts the number of steps for moving a window to a new space; try dragging it past the top of the screen.

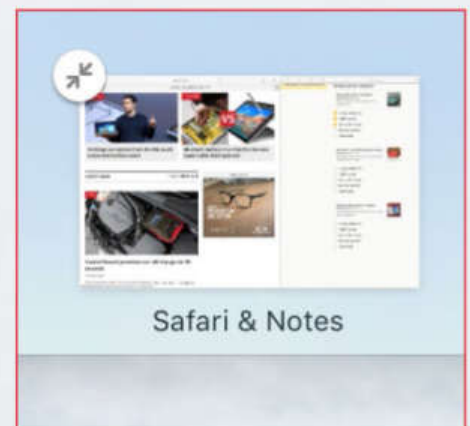
The Spaces bar at the top of the screen has been changed to initially display only the names of your desktops and full-screen apps. This gives more space for the window previews below. Moving the pointer up to the top of the screen reveals graphical previews of each space, as does dragging a window.

As in previous versions of OS X, dropping a window onto another desktop moves it

there. However, there are subtle changes to what happens when you drop a window onto empty spaces or full-screen apps in the bar.

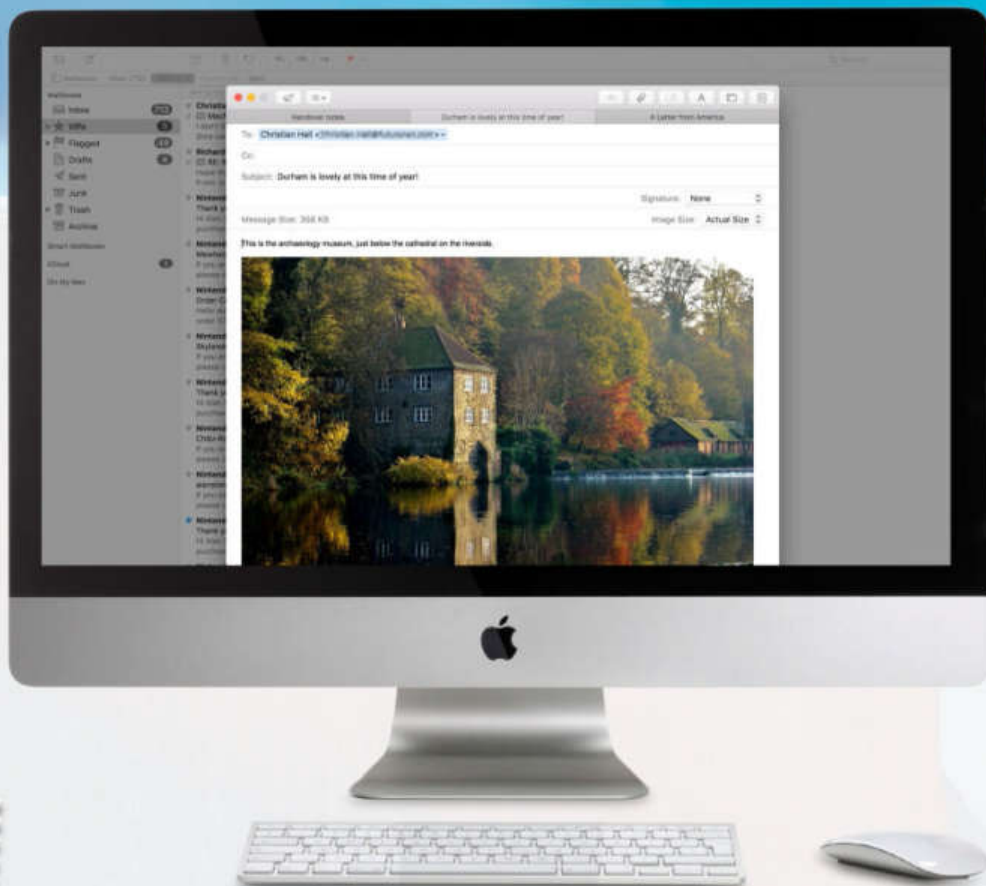
23 Previously, dropping a window onto an empty area would make a new desktop and move it there. Now you must explicitly drag it to the space that slides in at the right of the bar, marked with a +, because El Capitan reserves the empty areas for another purpose. **24** Drag a window belonging to an app that supports full-screen mode over an empty part of the bar and a new space named after that app to appear, then let go to switch the window to full-screen mode.

Similar actions work as a shortcut to Split View. **25** Merge two apps by dragging a window or an app that's already in full-screen mode onto another full-screen app in the Spaces bar. As before, placing the pointer over a space and click either the cross down Mission Control enables you to remove Spaces from Mission Control. Any windows that are in that space are moved to their previous desktop.



26 Split apart apps

Holding down the **⌘** key while the pointer is hovering over the Spaces bar at the top of Mission Control reveals a close icon for each space (as it did in earlier versions of OS X). Apps that are in full-screen mode or Split View display two arrows pointing towards each other; when clicked, those apps are switched back to being windows on the desktop on which they originated.



Messaging with Mail

Swiping to manage messages, full-screen flexibility, and multiple message tabs make Mail effective than ever

Many of Mail's new features are focussed on make working it more practical to work with in full-screen mode, especially when composing messages.

New messages are still created in a panel that's displayed in the middle of the screen, but you no longer have to save the message as a draft before you can look at other messages. **27** However, clicking outside of the pane now causes it to slide out of the way to the bottom of the screen. Click on the small bar down there to bring the composition panel back into view. This is more convenient for copying and pasting text or dragging attachments from one message into a new one.

It isn't just Mail's main window that can be made to take over the whole screen. **28** Any message window can be switched to full screen from its green button, enabling you to compose a message on one side of the screen and refer to something else – even an other message – on the other in Split View.

You can also have several part-composed messages on the go, without having to save them as drafts. **29** Each time you create a new message (by pressing **⌘+N** or clicking the corresponding button in the toolbar), a new tab is added to the pane. Rather than

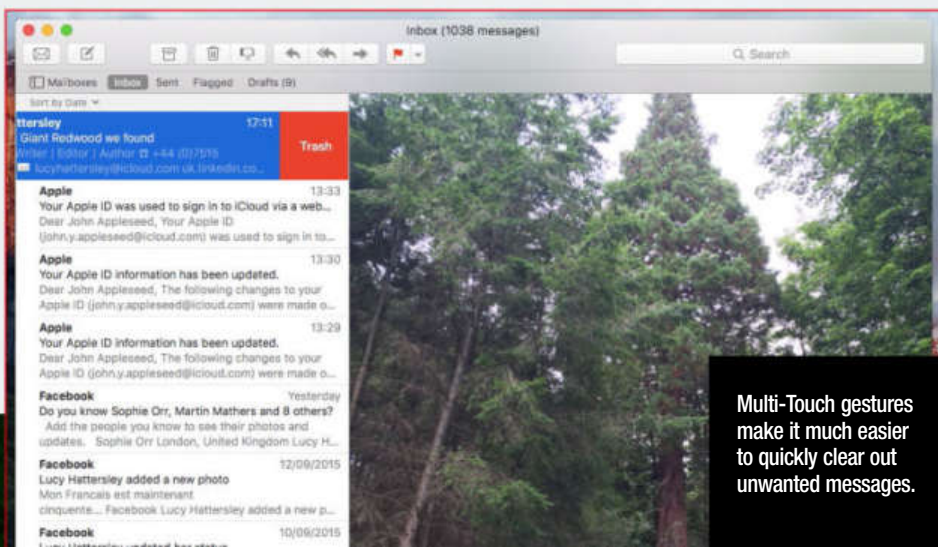
reach for your mouse or trackpad, you can switch tabs using **⌘+⌘+I** and **⌘+⌘+J**.

Managing unread messages is easier with gestures that have worked their way across from iOS to OS X. **30** Swipe to the right while the pointer is over a message in a mailbox's list to mark it as unread, or swipe to the left to trash or archive it. Do this with two fingers on a trackpad, or one finger on a Magic Mouse. **31** If you prefer to archive mail, the latter gesture can be switched from Trash to Archive in Mail > Preferences > Viewing > Swipe Left To.

32 Mail inspects incoming messages for contacts and events to add to your calendar. If someone emails you with information about an event, Mail will search for details (time,

date, location, and so on) and suggests that you add it to Calendar. **33** Similarly, it looks for new contact information, filling out phone numbers, emails and addresses for people in your contacts (and suggests when to create a new contact record). In both instances, you'll see a prompt at the top of the message. Click the blue 'add...' word at the right of that row to add or update an item in the related app.

34 One small addition that's easily overlooked is the strikethrough button in Mail's Format bar (which is revealed by clicking the 'A' button in the toolbar), rather than having to open OS X's built-in Fonts window. This is helpful for indicating changes or suggestions when collaborating on text.



Multi-Touch gestures make it much easier to quickly clear out unwanted messages.



Introducing Blackmagic URSA Mini, the lightweight Super 35 4.6K digital film camera with 15 stops of dynamic range!

Introducing URSA Mini, a handheld Super 35 digital film camera with an incredible 4.6K image sensor, global shutter and a massive 15 stops of dynamic range! The super compact and lightweight design is perfectly balanced, making it comfortable enough for all day shooting. URSA Mini lets you shoot at up to 60fps, features a 5" foldout viewfinder, dual RAW and ProRes recorders, and more!

Incredible 4.6K Sensor

URSA Mini can capture images at a resolution and dynamic range that goes well beyond that of traditional motion picture film so you can shoot your own epic, cinematic masterpiece! You can capture images up to 4608 x 2592, which is larger than 4K DCI, with 15 stops of dynamic range so you get incredibly clean pictures with amazing detail in everything from the darkest shadows to the brightest highlights! URSA Mini can record 4.6K at up to 60fps, or 1080 HD at up to 120fps.

Lightweight and Portable

URSA Mini's perfectly balanced body is made out of space aged magnesium alloys so it's rugged, yet lightweight and comfortable enough to be used all day. You get a super bright 5" fold out touch screen for on-set monitoring, that can also display overlays for timecode, histograms, audio meters, focus peaking and more! URSA Mini features full size, professional connectors, even 12G-SDI, so you don't need custom cables, plus high quality stereo microphones and a side grip mounted on a standard rosette.

Completely Customizable

Blackmagic URSA Mini is completely customizable so you can create a rig that's built specifically for your production! Add accessories like the Blackmagic URSA Viewfinder and Blackmagic URSA Mini Shoulder Kit, or choose from hundreds of third party accessories. URSA Mini has 9 standard 1/4" threaded mounting points on the top and bottom of the camera so you can mount it directly to a tripod as well as add accessories such as rails, matte boxes and more.

Non-Stop Recording

You never have to stop recording because URSA Mini features two CFast 2.0 recorders! When one card is full, recording automatically continues onto the next. URSA Mini uses the latest, incredibly fast CFast 2.0 technology for recording speeds up to 350 MB/s. Wide dynamic range images are saved as 12-bit RAW files, which are perfect for high end grading and effects work, or as broadcast quality ProRes, for easy post production workflows with minimum storage requirements!



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 Blackmagic URSA Mini 4K PL £2,359*
 Blackmagic URSA Mini 4.6K EF £3,355*
 Blackmagic URSA Mini 4.6K PL £3,699*
 All models include DaVinci Resolve 12

www.blackmagicdesign.com/uk

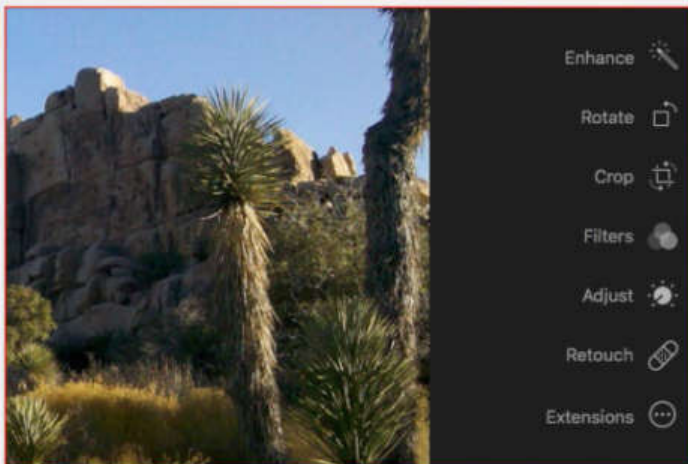
Electronic Viewfinder, lens and accessories sold separately.

*SRP is Exclusive of VAT.



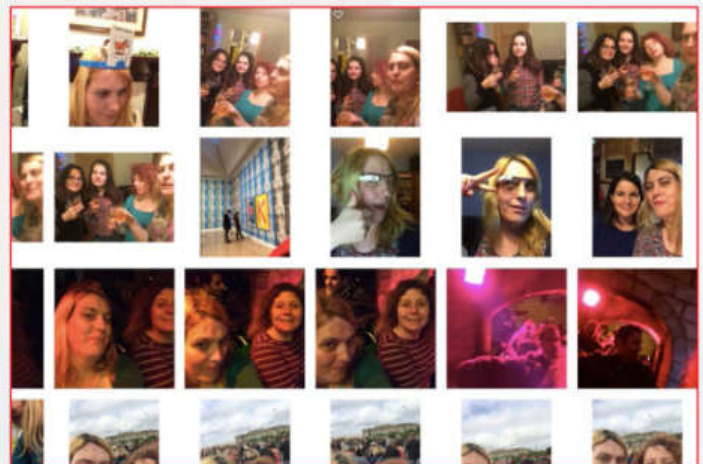
Power up Photos

Your photo library and editor packs more punch with third-party extensions and geotagging



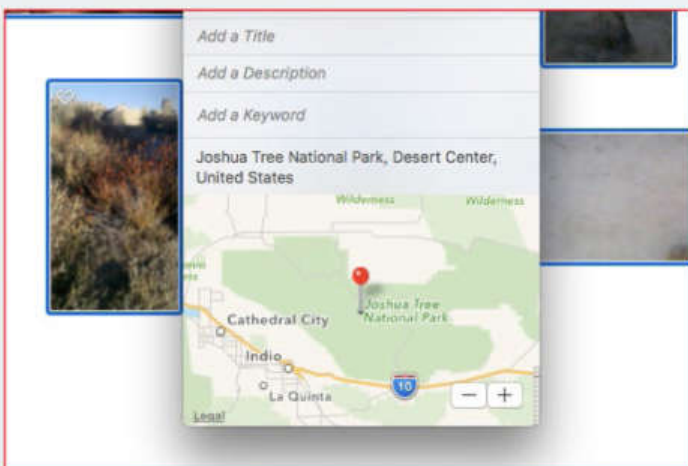
35>Extensions

Photos' editing capabilities take a big step forward with support for extensions, which enable third-party developers to make image-editing tools from their own apps available inside Photos (much like on iOS). This saves you exporting an image, editing it elsewhere, and bringing it back into Photos. Open a photo and click Edit > Extensions > More to view those available on your Mac. Extensions are bundled with apps from the Mac App Store.



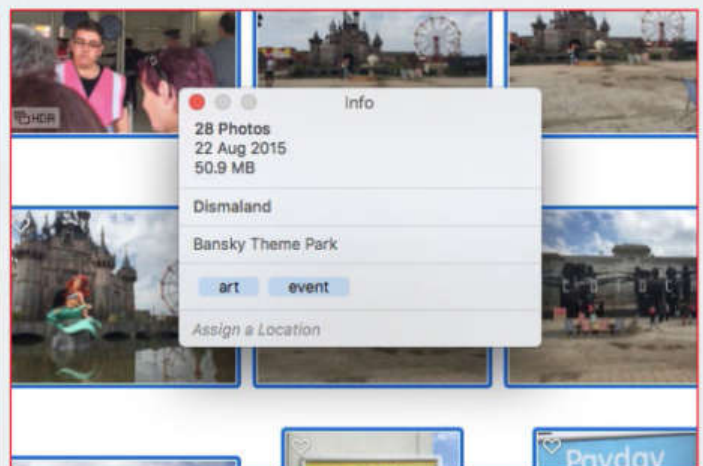
36>Faces and Selfies and Screenshots

Faces has an improved interface. Click Albums > Faces and you can now select multiple photos (holding **⌘** to build a selection) and then drag them onto a face in the middle of the screen to identify all of them as being that person in one fell swoop. This greatly speeds up how quickly you can name people that the app identifies in your photos, and in the process you more quickly guide its identifications in the future.



37>Manually attach locations

One of the great things about snapping photos with an iPhone is geolocation tagging, which lets you know where photos were taken. Photos now enables you to manually attach location data to photos that lack it, and modify it on those that do. Select an image and open the Info window (**⌘** + **I**) and you'll see a row labelled Assign a Location at the bottom of it. Type a place name or postcode and pick one from the app's suggested matches.



38>Batch renaming

In Yosemite, the app's Info window only enabled keywords to be set on multiple photos at once, but in Photos 1.1 you can simultaneously add the same title, description and, of course, location data for all photos in your selection. If you then choose to export photos that have the same title using that title as their filename, those past the first one will have a number in brackets appended to their name.



Surfing with Safari

Silence noisy sites, stream online video to Apple TV, pin open important sites and much more!

We spend more time in Safari than most other apps, so it's fitting that Apple's web browser has received more new features than other app in El Capitan.

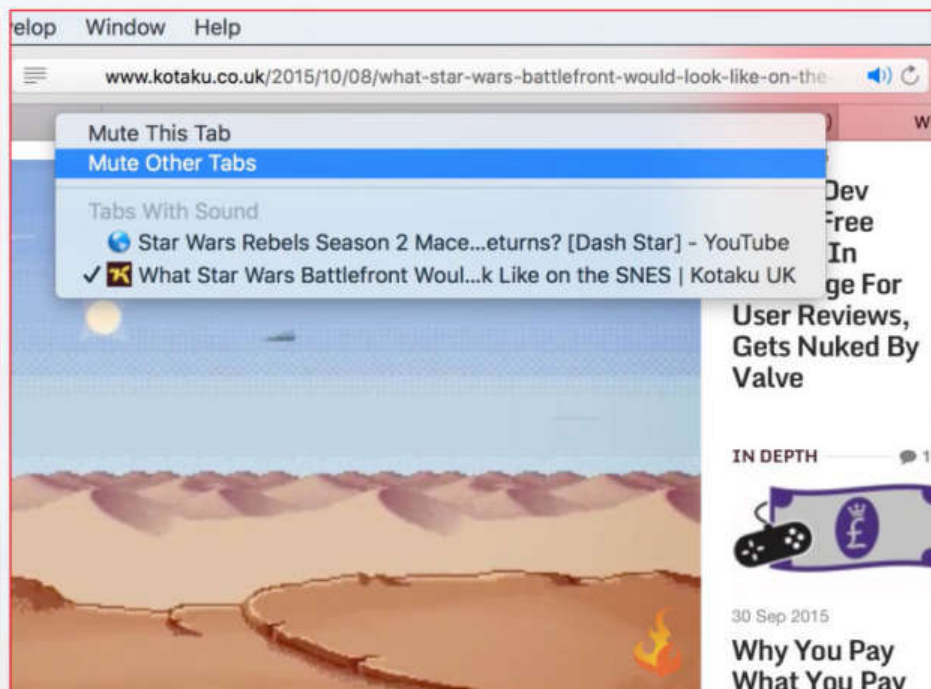
Probably the most welcome addition is the ability to mute the audio content from a website. Sites are increasingly auto-playing video and having the accompanying audio (usually an advert) blasting out from your Mac is excruciatingly annoying. Any tab that is playing audio displays a blue speaker icon in the Smart Search field – filled in when the audio is coming from the current tab, and an outline when it's from another tab. **39** Click this blue icon and the sound from the current tab will be muted. Hold **⌘** when clicking it to mute all other tabs. Be aware that muting audio does not stop the video portion playing.

40 If you have multiple tabs open, a small black audio icon appears on the right-hand side of any that's playing audio. Clicking one of these mutes that specific tab, or you can hold **⌘** while clicking to mute all other tabs.

41 Hold **⌘** and click a tab's speaker icon to see the same options to mute that tab/others, and the titles of all tabs that are playing audio; **42** you can click one of these titles to jump straight to that tab.

Safari goes further in improving how you interact with online media. AirPlay Video lets you stream video content to an Apple TV without having to mirror the whole of your Mac's display. **43** Compatible video on a website displays an AirPlay icon to the right of its volume control. Clicking this lists AirPlay video receivers on your network and selecting

Reader is more flexible than before in how pages are presented, offering you a choice of page colours and fonts in addition to an adjustable text size.



At long last, Safari catches up with other browsers with the inclusion of speaker icons in its Smart Search field and on tabs that enable you to mute sites that are making a racket in the background.

one (typically an Apple TV) sends the video directly to your television.

Safari's Reader feature, which presents a clean view of only the text and images that are the real content of a page, offers presentation settings beyond resizable text. **44** Open Reader by clicking the paragraph icon at the left of the Smart Search field when viewing a suitable page, then click the **AA** icon on the field's right side to open Reader's appearance settings, which include four background colours (white, sepia, grey and black), eight fonts, and the old font size adjustment options.

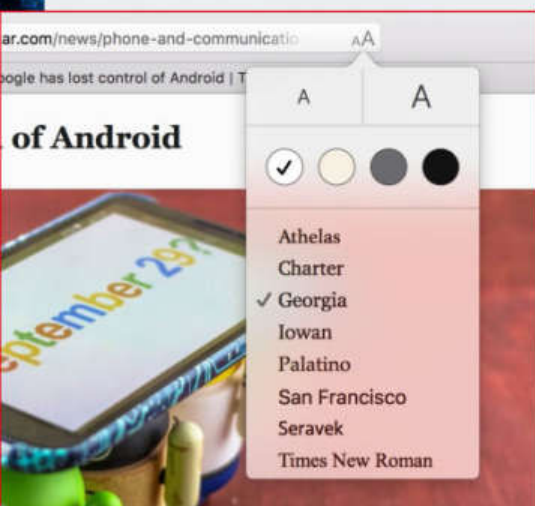
Pinned Sites gives you quick access to sites you use often. **45** Pinning a site couldn't be easier: choose **Window > Pin Tab**, or click on a tab's title and drag it to the left of the tab, or **⌘**-click a tab and choose **Pin Tab**. The tab becomes a small square on the left side of the tab bar, showing only a site icon. They remain open when you close and reopen Safari, and the sites in them run in the background, so you'll hear sounds such as message alerts.

Some of Safari's keyboard shortcuts have changed. Previously, **⌘+1**, **⌘+2** and so

Compatible web videos can be streamed to an Apple TV without mirroring the whole of your Mac's display

on opened bookmarks from corresponding positions in the Favorites Bar. **46** These shortcuts now switch between tabs you have open, including pinned ones. **47** Now, also holding down **⌘** loads an item from the Favorites Bar (even if the bar is hidden). **48** These two sets of shortcuts can be reversed by turning off 'Use **⌘**-1 through **⌘**-9 to switch tabs' in **Safari > Preferences > Tabs**.

49 Extensions now require developers to be part of the paid-for Apple Developer program, the upsides being that their code must be signed by Apple for security, and they can update themselves as long as **Safari > Preferences > Extensions > Automatically update...** is enabled.





Practical pointers

It's the little things that make El Capitan sing.
Here are the under-the-hood tweaks to investigate

El Capitan may not have had a radical refresh, but it contains plenty of interesting and practical tweaks that improve your time spent using it.

50 One that we adore is that you can quickly locate the pointer just by shaking it. This enlarges it temporarily to help you spot it on a busy or large desktop. If you find it annoying, perhaps because you fidget with your mouse or trackpad, the behaviour can be disabled by turning off 'Shake mouse pointer to locate' in System Preferences > Accessibility > Display.

51 If you previously used Yosemite and turned on its option to reduce transparency effects, consider turning it back off again (in the Accessibility pane, under Display). Many of the more objectionable instances of it have been toned down, such as text scrolling behind semi-opaque foreground elements, which affected legibility.

52 Invaluable on small displays is the ability to hide the menu bar until you need it, just like you've been able to do with the

Dock for years. You can enable this in System Preferences > General.

53 The Share menu has gained actions to add what you're looking at to Reminders or Notes. If you can't see these options, click on Share > More and ensure that they're checked. They're handy for keeping track of web pages as part of research notes, to remind you about things like event tickets going on sale, and you can add copies of documents from Pages, Numbers and Keynote to your notes, too. Note that the first time you open Notes you'll be asked to upgrade to a new format for storing them in iCloud; only do this if all your devices are able to run El Capitan or iOS 9.

54 The fake clicking noise that Force Touch trackpads make by turning on Silent Clicking in the Trackpad preferences pane.

55 A Find My Friends widget can be added to Notification Centre's Today view. Click Edit at the bottom of that view and then click the plus in a green circle next to the widget. Find My Friends will display a location warning;

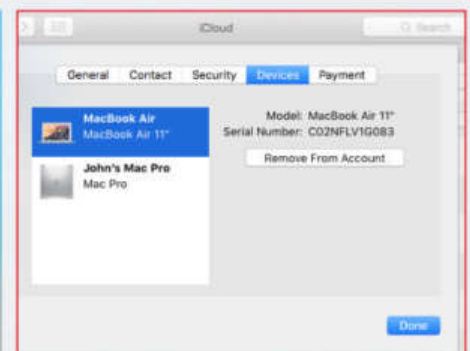
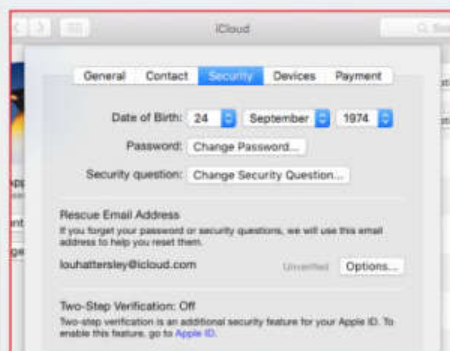
tap Allow to enable it to use your current location. You might find this useful to know, say, when to set out to pick up family or friends.

56 Safari now lets you clear your browsing history in a less disruptive fashion. Open either its application menu or the History menu and then hold \square to append "...and Keep Website Data" to the option that covers your tracks. This preserves cookies, which might contain settings for web apps, for example.

57 It's easier to manage your downloads on the fly now, rather than ending up with a burgeoning folder full of them. Open Safari's General preferences, click the pop-up menu labelled 'File download location' and choose 'Ask for each download'.

58 In OS X's colour picker (accessible in apps such as TextEdit using $\text{⌘} + \text{⌘} + \text{C}$), the Crayons tab is replaced with a Pencils tab with a broader selection of colours. With text selected, the appropriate pencil pops up out of the arrangement to remind you which colour you applied to it.

59> How to set up two-factor authentication



1 What is it?

Two-factor authentication is a new security system from Apple. It's similar to two-step authentication, but easier to use because codes are sent directly to your devices (rather than as an SMS text message). It also doesn't require users to print out, and safely store, a super-secret emergency key (previously, this caused problems for people who lost them). It also makes it possible for Apple to help you to recover your account if you completely forget your password and lose all your devices.

2 How to set it up

Two-factor authentication is being rolled out by Apple to users in stages, so you don't sign up for it. Instead, it'll be offered to you during setup. If you've already configured it, then you can check your status by choosing System Preferences > iCloud > Account Details > Security. To turn on two-factor authentication you must give Apple at least one phone number. In fact, it's best to provide Apple with a second number as a backup, in case you lose (or change) your phone number down the line.

3 Manage your devices

With two-factor authentication set up, a six digit code is sent to your other devices (running El Capitan or iOS 9) when you try to log on to Apple services when you enter your password to use a service such as iCloud, or buy from the iTunes or App Stores. Enter the code to confirm that you actually made the request. This way, even if somebody hacks your passcode they still can't log on to your account. Manage your trusted devices in System Preferences > iCloud > Account Details > Devices.



Finder

Your file management app now makes it easier to work in the cloud

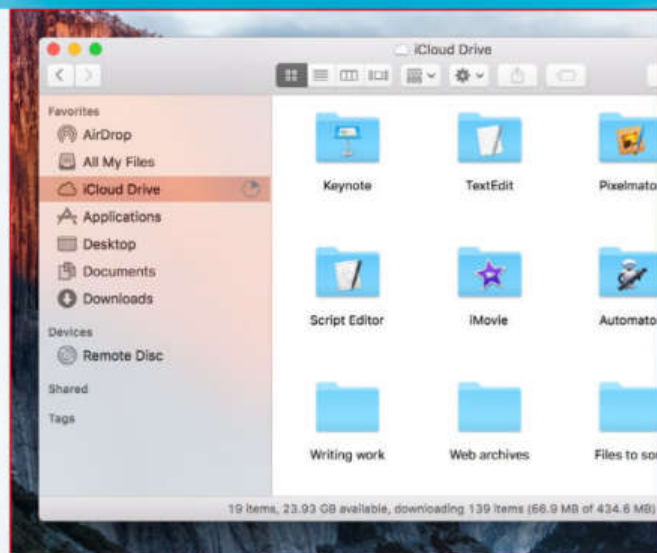
Even Finder has a few new features. One feature that will be welcome if you're not used to the fairly subtle convention of selecting a file or folder and then clicking its name or pressing **⌘** to rename it is **60**, the addition of a Rename option to the contextual menu that appears when you **⌘**-click the item instead.

If you use Terminal or programming tools in which you need to refer to a file or folder, typing the whole path to it is tedious and prone to error, but you don't have to run the risk. **61** Instead, **⌘**-click the item and then hold down **⌘**; you'll notice that the usual Copy command in the menu changes to 'Copy <Item> as Pathname'. With Terminal, you could already preview achieve this by dragging an item onto its window to insert its path into the command line, but the ability to copy it to the Clipboard provides greater flexibility over what you do with that information – and it's also easier than dragging a file from one space into another if you prefer to run Terminal in full-screen mode.

Yosemite already puts progress bars on each file being synced with iCloud Drive. However, you might find yourself saving not just the odd small document now and then, but much larger amounts of data between your Macs and possibly iOS devices too.

62 To be sure that syncing activity between your Mac and iCloud Drive has completed, Finder's sidebar displays a circle next to iCloud Drive (if you've removed it, go to Finder > Preferences > Sidebar to get it back) which gradually fills to reflect progress. This is helpful if, say, you need to get some files onto a MacBook before departing. Open up a Finder window, watch the progress indicator and only close the lid once the circle disappears, telling you the sync is complete.

With an especially large amount of data transferring to or from iCloud Drive, the circle in



El Capitan's version of Finder makes it much clearer when files are being synced to or from iCloud – right down to the last megabyte.

the sidebar might fill pretty slowly. So, Finder has a second, more detailed progress indicator available. **63** Turn on its path bar (View > Show Path Bar) and then browse to iCloud Drive (Go > iCloud Drive). At the bottom of the Finder window you'll see an indication of how many items are being copied, the total amount of data being copied, and an updating total of how much has copied across so far. Note that the figure to the left that shows remaining capacity isn't indicative of your iCloud Drive space; that's referring to your Mac's free space.

Disk Utility

Disk Utility has a new, more approachable look, though features such as writing a disk image or folder to a CD or DVD have been dropped.

64 Its left-hand pane now categorises disks as internal, external and disk images, reducing the chance you'll mistake, say, an SD card and a USB flash drive of the same size and erase the wrong one.

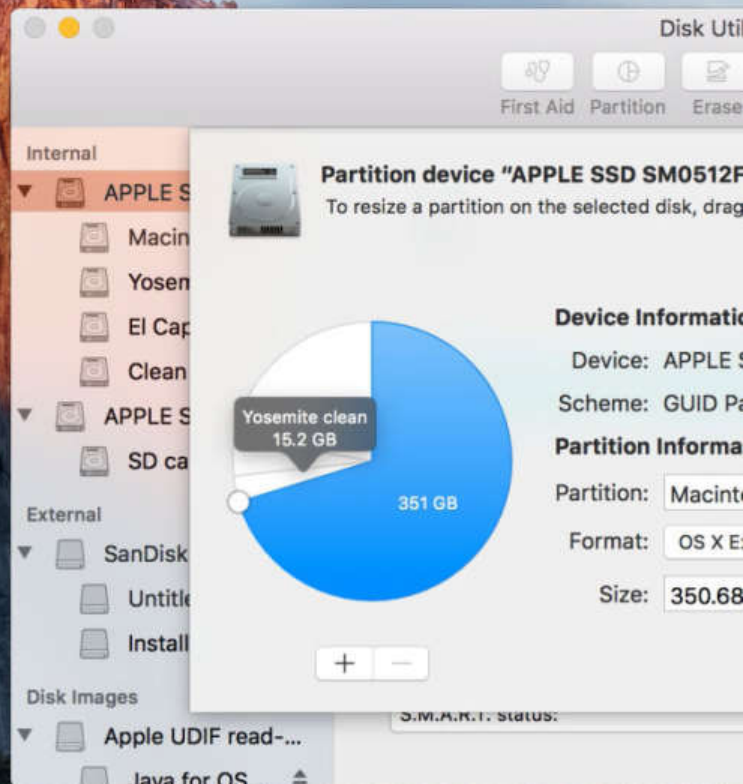
65 The right-hand pane is now purely informational, showing details of whatever you've selected on the left in a colour-coded breakdown of its contents, much like the one for iPods and iOS devices connected to iTunes.

Operations are now invoked solely from button in the toolbar. Some will be greyed out, indicating they're not

applicable to your selection on the left. **66** First Aid is equivalent to Repair Disk in older versions, checking for low-level structural issues. The option to repair permissions is gone because El Capitan is supposed to check and repair them silently for you.

67 The Partition feature now shows a disk's structure as a pie chart. The order of partitions on a disk starts from top-centre and works clockwise around the chart. When partitioning a disk, the app will split whichever is selected (blue after you click it) when you click the + button.

68 If you need to restore the contents of a disk from an image, or another drive, that option is still available – but in the Edit menu, not Images.





The little things

We're still not done yet! These last few tips alone are small but significant enough to think about upgrading

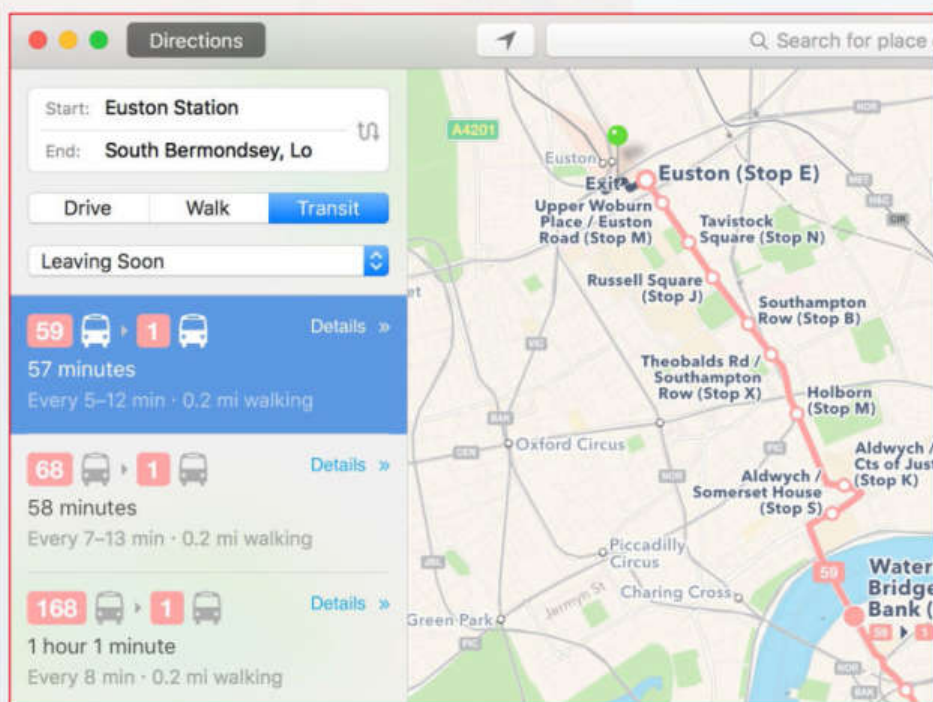
For all the improvements each version of OS X brings, there's always room for improvement – whether that's in options for putting notifications in an order that works for you, protecting your Mac App Store account against accidental purchases, or assuring you that the website you're designing will look great on computers and mobile devices alike. El Capitan takes steps to make existing features work better.

69 iBooks has the same presentation options as Safari Reader. You can set the page background to white, sepia, grey or black, each with complementary but automatically-chosen font colours, and select from eight fonts, including Apple's new San Francisco font that's used throughout OS X, iOS and watchOS.

Whether you're a parent or simply concerned about making accidental purchases from the Mac App Store, **70** open the App Store pane in System Preferences and look at the bottom of it to find new password settings that define how soon after making a purchase – and entering your password – the Mac App Store will request your password for subsequent purchases – immediately or only after 15 minutes. Free downloads can require your password every time, or not at all.

71 Traditionally, OS X would 'zoom' a window to a best fit for its content when you double-clicked the window's title bar. More recently, that action has minimised windows into the Dock – a sensible change for anyone coming from Windows, which also behaves

Notification Center now provides three options for sorting your notifications: Recents, Recents by App, and Manually by App.



Switch Maps to its Transit view, then zoom out a long way and look for blue transit badges on cities in which the app can suggest routes that use bus, subway and light rail, commuter rail and ferry services.

that way. In fact, Yosemite gave a choice of these two behaviours, but as a checkbox that made it unclear to inexperienced Mac users what behaviour – if any – you would get when the box was unchecked. Apple has cleared up this ambiguity with a pop-up menu that explicitly lists the zoom and minimize options.

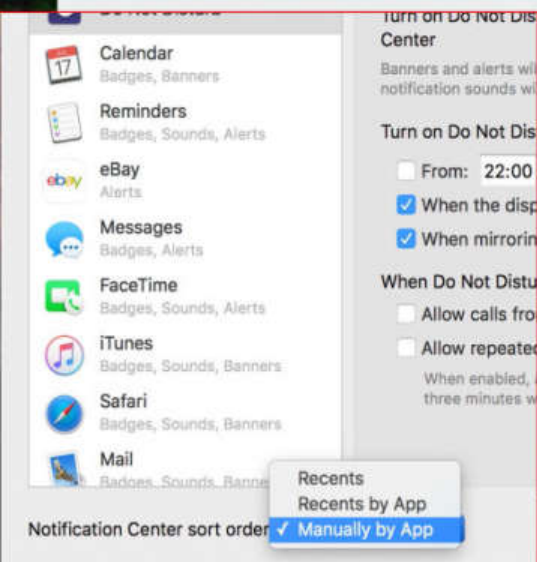
72 Notification Centre now offers three sorting options, up from two in Yosemite. The first setting, Recents, puts your notifications in reverse chronological order from the top of the tab down. The second one, Recents by App, groups notifications by application, so when you receive a notification from Mail, say, all of that app's items move to the top of the list, even if that means some newer notifications from other apps will appear below Mail's. The third setting, Manually by App, groups items similarly to the second one. However, when this option is selected, apps in the list shown in the Notifications preferences pane can be dragged up and down the list to set the order in which they're listed in Notification Centre. So, you can set Calendar or Reminders, say, to always appear at the top so you don't miss anything.

73 Image Capture includes a new feature

that helps to organise photos imported from multiple cameras, rather than dumping them into one folder. Connect a camera to your Mac and then click the Import To pop-up menu near the bottom of the app's window, then select 'Make subfolders per camera' to create folders named after your camera or its storage card.

74 Maps can now provide directions that use public transport, though only in a few cities. Choose which vehicles are included in route suggestions under View > Transit Directions.

75 If you design web pages, you'll want to enable Safari's Develop menu (from its Advanced preferences) and then choose Responsive Design Mode from that menu. This feature is intended to help ensure your pages look good on mobile devices as well as large displays like your Mac's. It places controls above the page you're viewing that enable you to switch to various screen resolutions and iOS devices, then choose Responsive Design Mode from it to reveal controls that show how the current page will look on various screen resolutions and iOS devices. Switch between landscape and portrait orientations by clicking the device icons.



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IMPROVE



“You can change the photos on your Desktop background and customise many other features – so why not tailor your icons, too!”

Make your own icons for files and folders **p46**



THIS ISSUE'S EASY-TO-FOLLOW GUIDES



Automate offline backups

Use tools that come with OS X to ensure you have a backup separate to Time Machine **p44**



Create custom OS X icons

Design new icons for your files and folders to add a personal touch to your Mac **p46**



Do more with Hot Corners

Break past OS X's limitations to use your Mac's screen corners to do many more things **p49**



When to use iCloud.com

Learn about the important iCloud tasks that you can only accomplish in a web browser **p50**



Back up your Boot Camp

Save yourself the hassle of every having to reinstall Windows the long way **p52**



Edit images in Pixelmator

Get rid of blemishes, cut out objects, and blend multiple images to stunning effect **p54**



Encrypt documents for free

Securely package and send files to other people, whether they use OS X or Windows **p57**



Share folders over the internet

Use an Apple networking device to make your files accessible anywhere you can get online **p58**



Create custom vibrations

Give yourself a way to tell what your iPhone is telling you about even when it's pocketed **p60**



Wake up with an alarm

Put your iPad to good use by making sure you wake up on time for work **p62**

Automate offline backups

Take the pain out of remembering to back up your most important data

SKILL LEVEL

Anyone can do it

IT WILL TAKE

1 hour

YOU'LL NEED

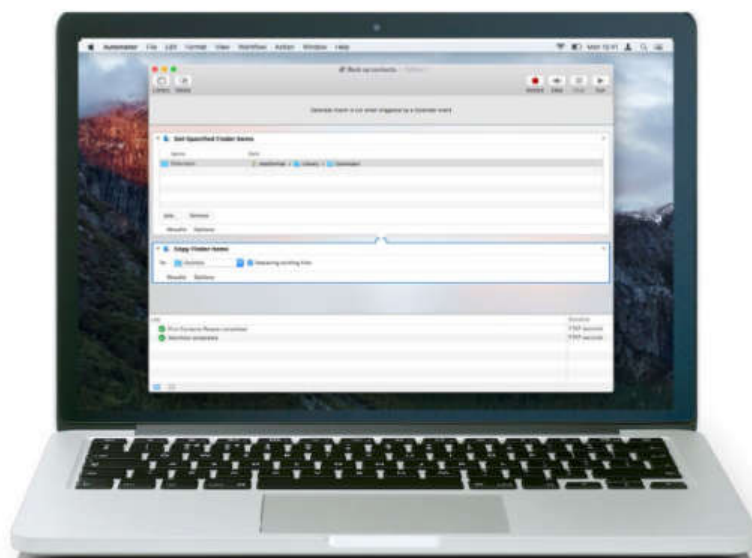
OS X 10.4 or higher



We're big fans of Time Machine, but it's not the be-all and end-all when it comes to backing up your Mac. Every back-up routine should have checks and fail-safes built in. Multiple backups in multiple locations is good, so that if any of them should corrupt or be lost you can always revert to another.

Traditionally, this meant manually copying data out of your apps one by one, but that's no longer necessary. OS X's Automator knows all about the other apps Apple provides, like Mail, Contacts and Calendar, and both how and where they store their data. That means it can rummage around inside their files and back things up on your behalf.

Don't worry if you've never used Automator before, it doesn't require any manual coding and doesn't assume prior knowledge. Its functions are broken down into categories: all you need to do is drag them into the order in which you want them performed and the output of one will automatically be



Delegating responsibility for backups to Automator and Calendar is safer than performing manual copies.

Automator can rummage around inside apps' files and perform the backups on your behalf

used as the input of the next.

Don't worry if your Automator categories don't exactly match ours as apps can add new abilities to it, so some may be missing on your Mac if you haven't got the same apps installed as us. In this tutorial we'll only be using Automator actions that are included with OS X. **Nik Rawlinson**

REPEATING ROUTINES



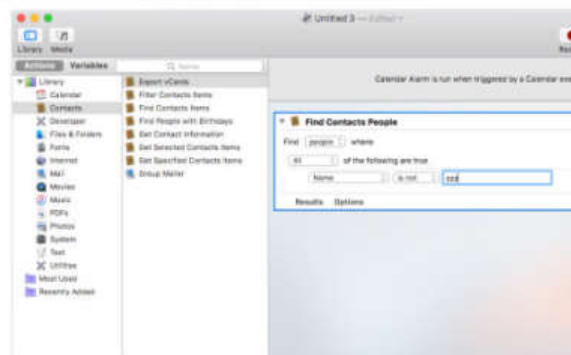
You can create as many Automator Calendar Events as you want and set them to run at different times. So, you may want to back up your contacts once a week, but create a separate routine to create a copy of your documents at the end of every workday.

HOW TO | SIMPLIFY YOUR BACKUPS



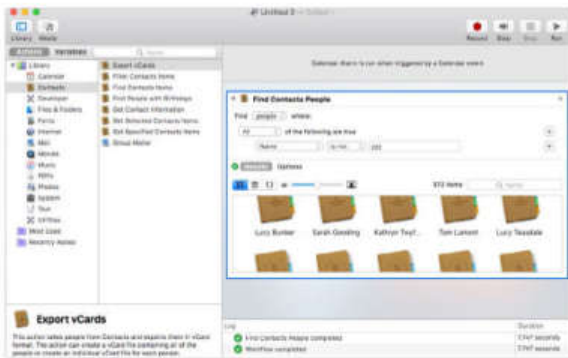
1 Automate your workflow

Open Automator and select Calendar Alarm as the type of document you want to create. A document of this type will be triggered by events in your calendar, which means you can set it to run at specified intervals without any manual intervention on your part.



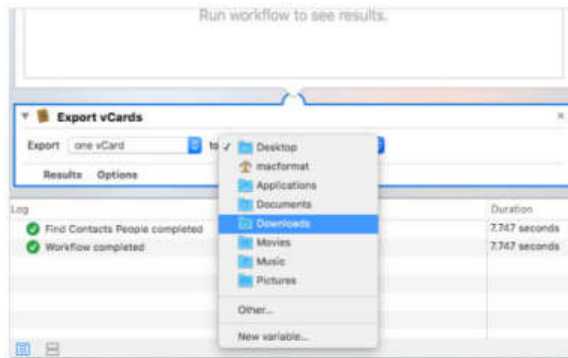
2 Filter your contacts

First, choose View > Arrange Actions by > Application. Click Contacts in the leftmost column and drag Find Contacts Items into the right pane. This specifies what to back up. We want every contact, so leave the first two options as 'people' and 'All', select 'Name' and 'is not' for the others, and enter 'zzz'.



3 Test the results

Click Run on the main toolbar. If it works you'll see a green tick at the bottom of the window with the words 'Workflow completed' next to it. Click Results, immediately below the pop-up menus on the Find Contacts Items action, to check the action has selected all of your contacts.



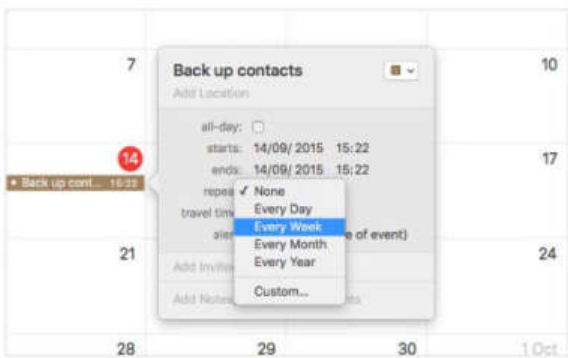
4 Export your contacts

If that worked, drag in the 'Export vCards' action so that it sits below the first one in your workflow. Leave its first option set to 'one vCard' to save all records in a bundle, and select a destination from the second pop-up; we recommend a network drive to store the backup away from the originals.

BELT AND BRACES

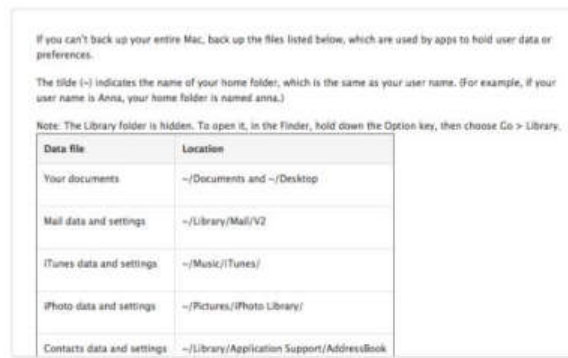
To go further, back up more folders from the web page in step 6, or even your whole Library folder, along with your Documents folder. Make sure you have enough space on your destination drive.

Running this in addition to Time Machine gives you a second fallback.



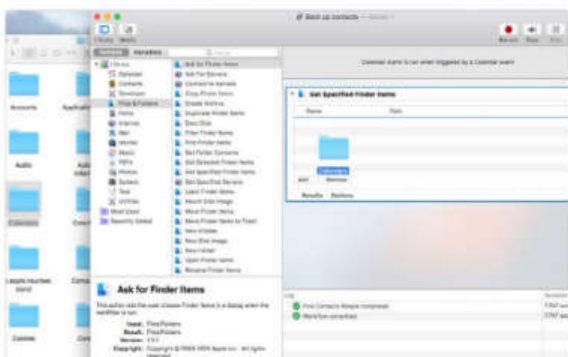
5 Save and activate your workflow

Choose File > Save and name your alarm. Automator adds it as an event at the current time, in a calendar called Automator. Open the Calendar app and double-click the new event to customise it. Set it to repeat weekly (or daily) at a set time to provide a regular backup of your contacts.



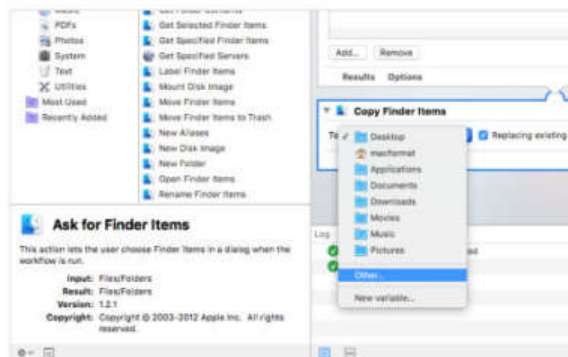
6 Copy your content

You can take a more direct route to backing up by copying whole folders that can be reinstated on a new system. Apple publishes a list of locations that you should back up at <https://support.apple.com/kb/PH13985>, which is a good starting point for an Automator workflow.



7 Reveal the hidden library

In Finder, click Go while holding ⌘ to reveal Library – click it to open the hidden folder. In Automator, create a new Calendar Alarm, select Finder in the left column, drag the Get Specified Finder Items action into the workflow, and drag the Calendars folder from the Finder window into the action.



8 Duplicate your data

Add the Copy Finder Items action and use its pop-up menu to choose a backup destination. If none of the default options suit, pick 'Other...' (choose a NAS – see Jargon Buster – if you have one). Check the box beside 'Replace existing items', then save the workflow to add it to your calendar.

JARGON BUSTER

NAS (Network Attached Storage) is a drive attached to your router, which makes it accessible from any Mac in your home. Storing backups on a NAS drive makes them easy to retrieve while separating them from original.

Create custom OS X icons

Quickly design new icons and apply them to your documents and folders

SKILL LEVEL

Anyone can do it

IT WILL TAKE

15 minutes

YOU'LL NEED

OS X 10.9 or higher,
Image2icon, some
images



The Mac's operating system has always been visual in nature, and this makes it intuitive. Back in the days when other systems relied on command lines, Mac OS prided itself on enabling you to use icons. Files, folders and applications were easily differentiated through visual cues. You didn't have to type out a path to access a favourite application – you'd just spot its icon and double-click on it.

Image2icon makes the process of adding and restoring icons far easier

Icons on the Mac can also be customised by the user. Although you can (at least until El Capitan) muck about with system and app icons, those are already differentiated by their unique designs. In your Dock, you can already tell apart, say, Safari, Mail and iTunes. But if you've got a few folders in your Dock, they all look exactly the same.

In Finder, you can of course apply custom icons by pasting images copied from elsewhere into the Get Info field, but Image2icon makes the process of adding and restoring icons far easier. It also offers one-off optional payments to unlock templates and extra export types (£4.49 each), or everything at once (£7.99). The base app is free, however, and that's what we use in this tutorial. **Craig Grannell**

QUICK LOOK IMAGE2ICON

The well

1 Here you drop images and items to it from Finder, in order to make edits and apply your custom icons.

Editing tools

2 You need to make major edits to images in a bespoke app. But, Image2icon does have some basic positioning tools.

Templates

3 For free, you can add your custom

image and use the editing tools. But pay the upgrade and you gain access to over 20 templates, ranging from folders to cases for old-school media.

Export options

4 Using the Export button, you can save your work in several formats (more if you pay). For PNG or JPEG you could just load an exported icon into Preview and re-export from there.



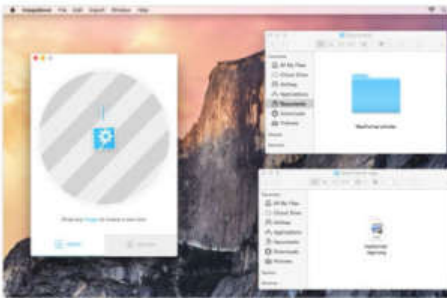
HOWTO | ADD, RESTORE AND EDIT A FOLDER ICON**1 Get started**

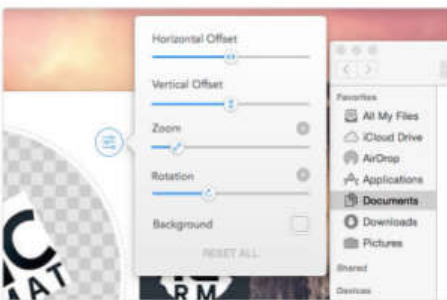
Image2icon favours drag and drop. On the left, we have our copy of Image2icon open, ready for dropping documents on to. Then in Finder, we've opened two windows. One has the folder we want to apply our icon to, and the other has the image we're planning on using.

**2 Drag and drop**

Use an image with lots of contrast (so it stands out) and that's quite large (OS X's icons max out at 1024x1024 pixels). For logos, PNG is a good format, rather than the lossy JPEG. Regardless, drag your image into Image2icon's well, and then drag your folder to the same well.

**3 Restore an icon**

The item you dragged into the well takes on your new icon. If you decide you later want to remove it, open the app or click the back arrow, then click the Restore tab. Drop the item with the custom icon on to the well and it will spin away, before revealing its default icon.

**4 Adjust your design**

Now fine-tune your icon. Get back to the point we were at in step 2, and click the sliders icon to the top-right of the well. In the pop-up, use the sliders to adjust offsets, the zoom level, and image rotation. You can also add a custom background colour. 'Reset all' reverts.

**5 Export your work**

If you want to save your custom icon rather than immediately apply it, click Export and choose an option. ICNS is OS X's native icon format, but 'Folder' does the job for storage. You can drag these saved items back to Image2icon to apply their icons to other files and folders.



To remove backgrounds open your image, use **⌘ + ⌘ + A** to access editing tools, and click the Instant Alpha wand (second from left). For areas you want to remove, **⌘**-drag inside it and then tap Delete.

**6 Remove backgrounds**

Some features unlock via IAP. For example, remove backgrounds by dragging the slider under the well. Note that this only removes flat colour around an icon – here, white areas within letterforms remain. For more complex edits, try Instant Alpha (see tip above).

**7 Use folder templates**

You can apply an image to one of the built-in templates, rather than your icon solely being the image itself. Preview any option by clicking it in the sidebar. Folder (Engraved) is the standard OS X design, but Folder (Center) offers more clarity. Export/save needs the full version.

**8 Get creative**

Underneath folder templates are other options, including documents, hard drives, and even vinyl sleeves. Remember that your image's dimensions might not be suitable for all of the various shapes; in order to avoid cropping your image, use the zoom tool mentioned in step 4.

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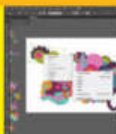
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Do more with Hot Corners

Get your Mac to fight your corners by working with them

SKILL LEVEL

Anyone can do it

IT WILL TAKE

30 minutes

YOU'LL NEED

OS X 10.6 or higher,
CornerClick



The corners of your Mac's screen generally go unused. While the Hot Corners feature in Mission

Control's preferences allows you to quickly execute functions by moving the pointer to a corner, it's limited by the relatively few actions available.

That's where CornerClick (free, gschueler.github.io/CornerClick) is

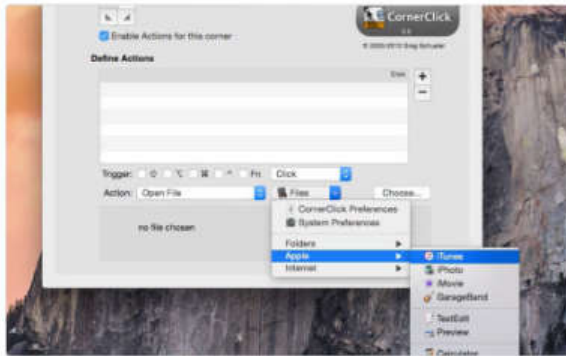
useful; it allows you to assign multiple commands to each corner, such as opening files or directing your browser to a specific URL. You can distinguish each command with modifier keys – holding **⌘**, say, while the pointer is in the corner of the screen to perform a different action, multiplying its uses.

Like Hot Corners, CornerClick can be used to make shortcuts to the Desktop,

Dashboard and screen saver, and while it won't allow you to access Mission Control or Launchpad, it makes up for it with the option to run AppleScripts or even apps created in Automator.

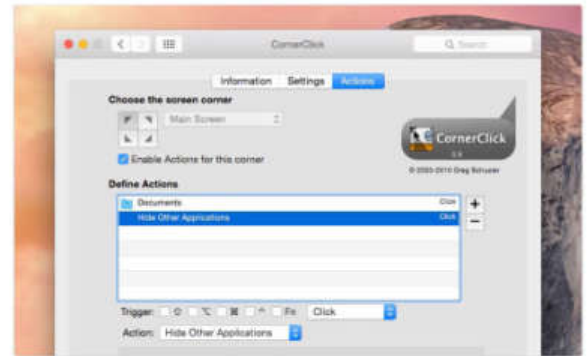
The relatively simple utility has a surprising amount of versatility. Investing just a little effort into setting it up can quickly pay off by enhancing how you use your Mac. **Adam Smith**

HOW TO | PUTTING CORNERCLICK TO GOOD USE



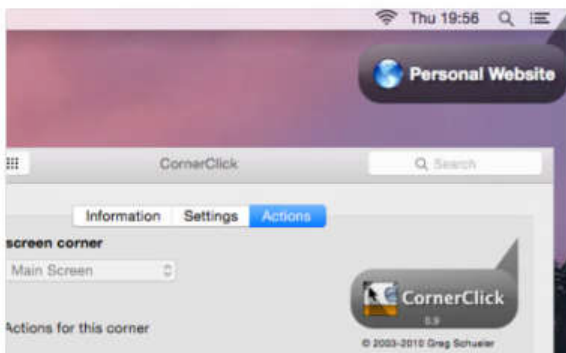
1 Open a file or an app

In the Actions tab, clicking the plus button enables you to assign commands to the corners of your Mac's screen. To create a shortcut to open a file, first ensure that the Open File action is selected, and then use the pop-up menu to the right of that to select a file or even an app.



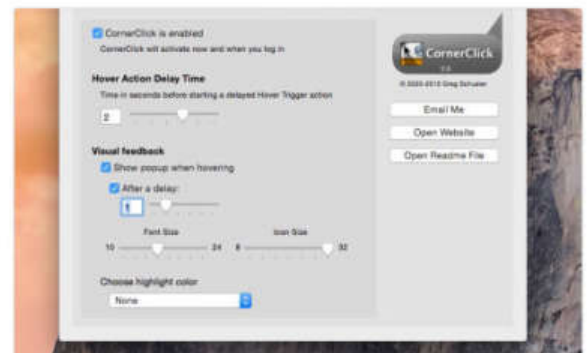
2 Create combinations of actions

If you assign multiple actions to the same shortcut, CornerClick will execute them in the order that they are listed under Define Actions. This can quickly put your Mac into a 'work mode', for example, by opening some apps and the Documents folder while simultaneously hiding other things.



3 Open a web page

You can set a screen corner to open a specific web page by choosing the 'Open URL' action and then entering an address in the box below, and assign a name to show instead of the full address – useful in helping you to distinguish long addresses when managing your shortcuts.



4 Change appearances

Under Settings, use the sliders near the bottom of the window to change the sizes of the text and icons that appear when the pointer is in a screen corner. You can also change the highlight colour so it's clearer what action you're about to invoke when more than one is assigned to the same corner.

When to use iCloud.com

Find out how to recover deleted files, set up email rules and much more...

SKILL LEVEL

Could be tricky

IT WILL TAKE

30 minutes

YOU'LL NEED

A Mac or PC, an internet connection, an iCloud account



Over the years, it's been pretty clear that Apple loves the web. However, it doesn't want you to live in a web browser – and this is a distinction that's quite important. An exception of sorts is iCloud.com. This website is Apple's browser-based app suite, the majority of which mirrors apps on your iPad. This means that wherever you have access to a Mac or PC with a compatible web browser (<http://apple.co/1K7jWdz>) a Mac or PC, you can also use web-based versions of Mail, Contacts, Calendar, Photos, Notes, Reminders, and Apple's trio of office apps (Pages, Numbers and Keynote, all labelled as 'beta' versions). There are also

three utilities on offer: iCloud Drive, Find My iPhone and Settings.

Although we wouldn't especially recommend using the site regularly (that is, over the native apps), we'd say it has two specific purposes. First, it's a handy emergency place for performing tasks: checking email if your iPad's out of power, or finding a device if it goes missing. Secondly, it has a number of useful settings and configuration options that aren't accessible on your iPad, and some of these are the subject of our walkthroughs. Note that you can access the site from your iPad, but the options are limited, so we've assumed you have access to a Mac or PC for these walkthroughs.

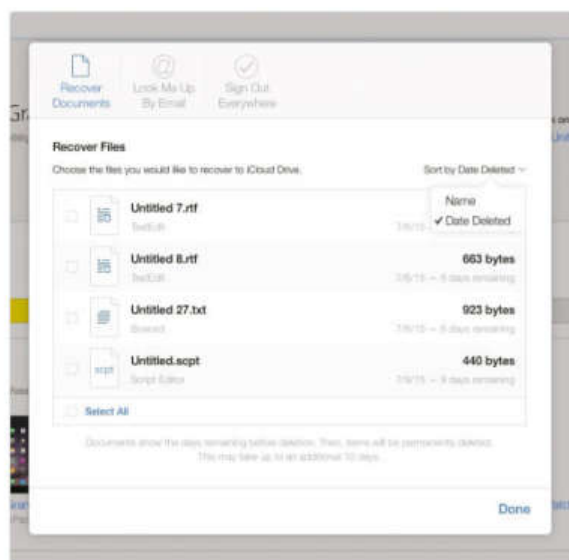
Craig Grannell



HOW TO | RECOVER DELETED DOCUMENTS

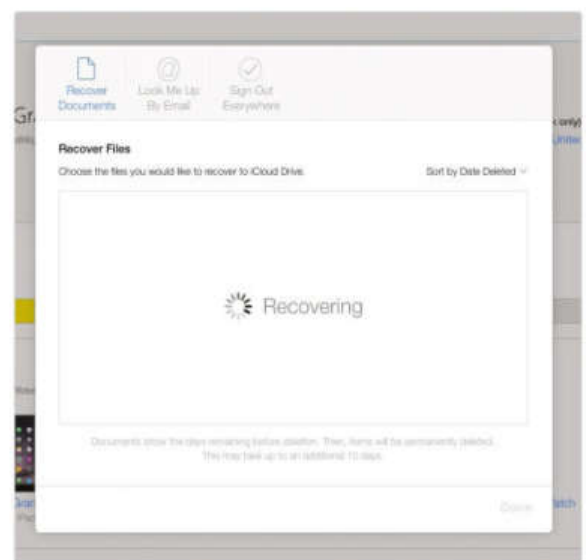
SIGNING OUT

If you've left yourself signed into iCloud.com on a computer you no longer have access to, sign in elsewhere and click Settings, scroll down to Advanced then click 'Sign Out Off All Browsers', and confirm by clicking Sign Out.



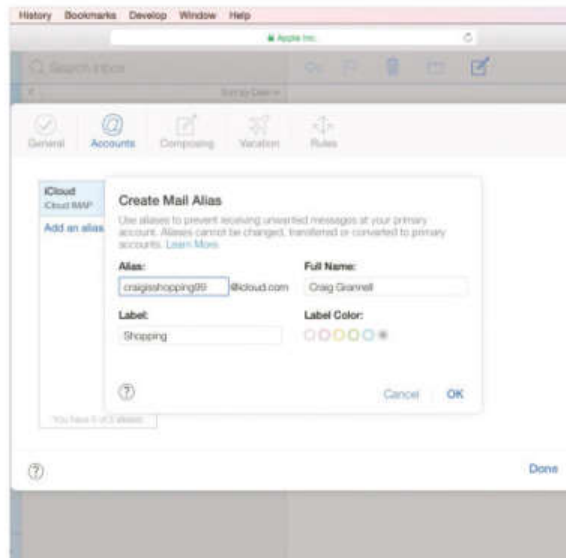
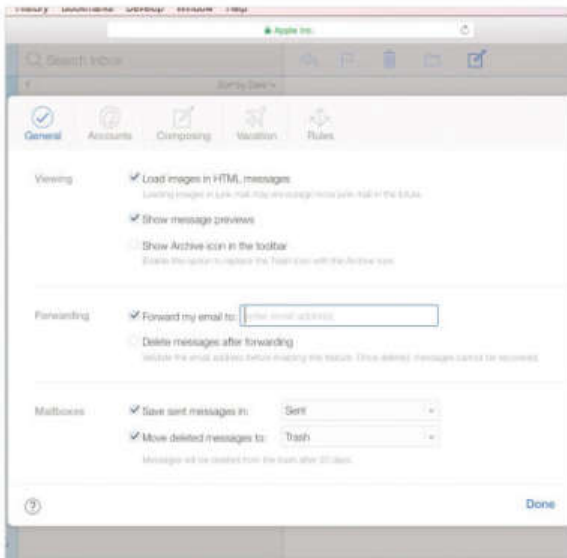
1 Find recoverable documents

One of the most frustrating things about using any device is when you accidentally delete a file you didn't mean to. If that happens to a file you have stored on iCloud Drive, iCloud.com makes it easy to get it back. To find it, log in, select Settings and scroll down to the Advanced section, then click Restore Files and sort your files by date or name.



2 Get back deleted files

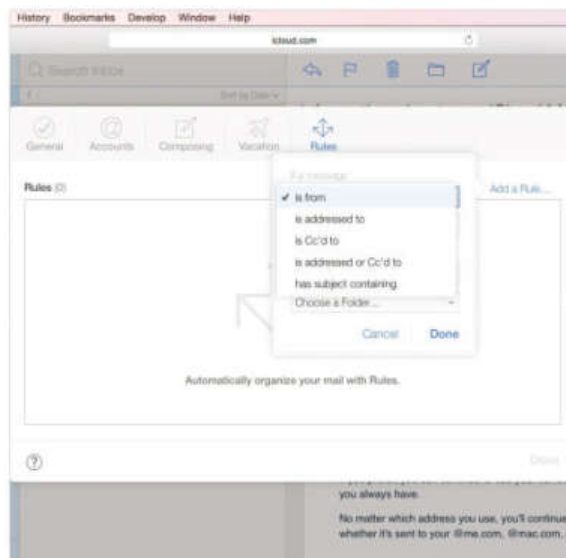
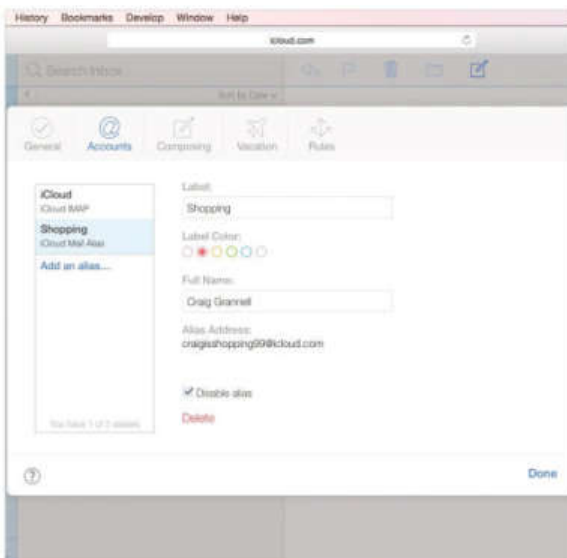
If it's a file you just deleted, date is the best option. Items are sorted oldest to newest, so scroll to the bottom of the list. Choose the item you'd like to recover by clicking its checkbox, then select Recover File. To see if it has worked, head to the iCloud Drive app on iCloud.com, and look inside the folder where the file was previously stored.

HOW TO | POWER UP MAIL AT iCloud.COM**1 Forward emails**

Open Mail in iCloud.com and click the cog icon at the bottom-left corner. Select Preferences from the pop-up menu to see your options. In Forwarding, click the first checkbox and enter an email address. This will forward emails sent to your iCloud.com email to wherever you specify. You can delete forwarded messages by ticking the second checkbox.

2 Create email aliases

Aliases are secondary email addresses that shield your main iCloud.com account from spam. You can use an alias for online shopping and other web activities, and it can be disabled when you don't need it. In Accounts, click 'Add an alias', add your alias, and, optionally, a label and label colour. Click OK. If the alias is not available, pick one that is.

**3 Manage email aliases**

In the Accounts section of Mail's preferences, aliases are listed in the left sidebar. You can have up to three aliases at once. To manage one, select it; you can then update the label and label colour, and the associated name. If the alias isn't in use, you can disable it by ticking its checkbox. If you decide you no longer want it at all, click Delete to remove it.

4 Create server-side rules

In the Rules section of Mail's preferences, you can define rules to automatically organise your email. Click 'Add a Rule', and use the pop-up menu to select a condition and action; click Done to confirm. In the Rules list, the 'i' button enables you to update or delete the rule. If you're going away, click the Vacation tab instead and set an auto-reply.

**USE THE
DESKTOP
SITE ON
AN iPad**

It is sort-of possible to use the desktop iCloud.com site on iPad. Hold a finger on the reload icon at the right-hand side of the Smart Search field and choose Request Desktop Site. The site will reload with the layout you see on a Mac or PC. Note, though, that some aspects of it won't work well or at all.

**FIND MY
iPhone**

Lost your device or had it stolen? As long as it had Find My iPhone set up you'll be able to check its whereabouts on iCloud.com. Open Find My iPhone and click All Devices. If the device is online, click it to zoom to its location.

Back up your Boot Camp

Paragon Boot Camp Backup offers a fuss-free way to back up your Windows

SKILL LEVEL

Could be tricky

IT WILL TAKE

20 minutes

YOU'LL NEED

OS X 10.8 or higher,
Boot Camp partition,
Paragon Boot Camp
Backup



If you've set up a Boot Camp partition with Windows on it, then there's one very good

reason why you need to install Paragon Boot Camp Backup (www.paragon-software.com/home/bootcamp-backup). Most Mac backup tools – including Time Machine – can't properly back up your Windows installation. Indeed, Time Machine ignores it completely. You can, of course, back up from within Windows itself, but managing your backups from OS X is a simpler, fuss-free solution.

With Paragon, the first time you take a backup, a full drive image of Boot Camp is taken. Subsequent backups are incremental to save disk space, allowing you to record your Windows installation at different points in its life. It's a great way to experiment, secure in the knowledge that if something goes wrong you can quickly roll back your Windows partition to a working state (or recover individual files) without having to leave OS X.

Here we reveal how to create, update, maintain and restore a single backup. By



Paragon Boot Camp Backup allows you to back up your Windows partition from OS X – and all for free.

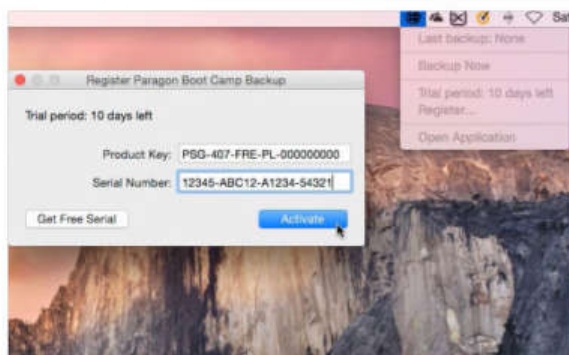
Subsequent backups are incremental, recording your Windows installation at different points

changing the destination image (click Select Image under Backup Boot Camp), however, you can actually back up Windows to different files. It's a handy way to give you a fall-back option if you're about to upgrade to Windows 10, for example, but want to keep a separate backup of your previous version – just in case. **Nick Peers**

HOW TO | KEEP WINDOWS BACKED UP

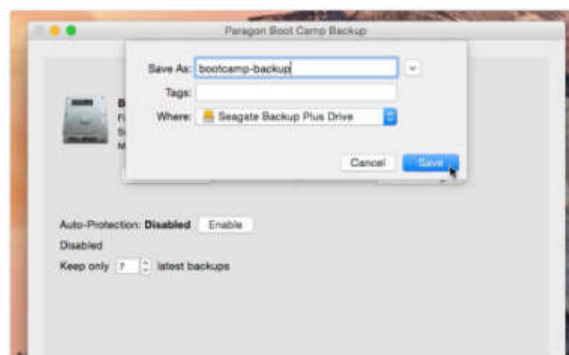
PINNED BACKUPS

If you want to protect a specific backup so it can never be merged or changed automatically, click the 'Is Pinned' box. You'll be prompted to give the backup a more descriptive name – type it in and click OK to do so. Click the box again to unpin it.



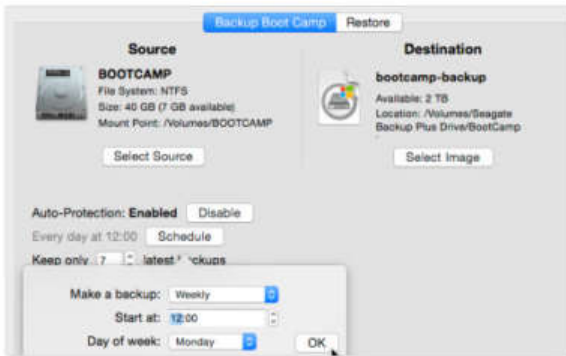
1 First run

Once you've downloaded and installed Paragon Boot Camp Backup, you'll notice it has placed a new icon in the menu bar. Click this and choose Register... Click Get Free Serial to register your details, then enter the product key and serial number from your registration email and click Activate.



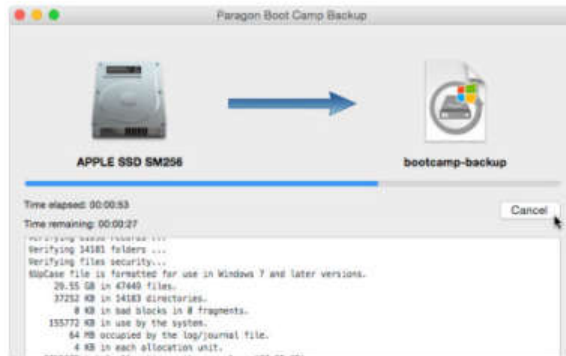
2 Select backup drive

Click the program's menu bar icon again and choose Open Application. By default the BootCamp partition should be pre-selected; if not, click Select Source to choose the correct drive. Now click Select Image to name your backup and choose where it's saved – an external hard drive is best.



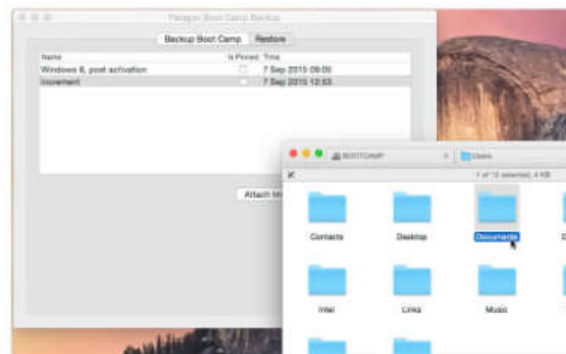
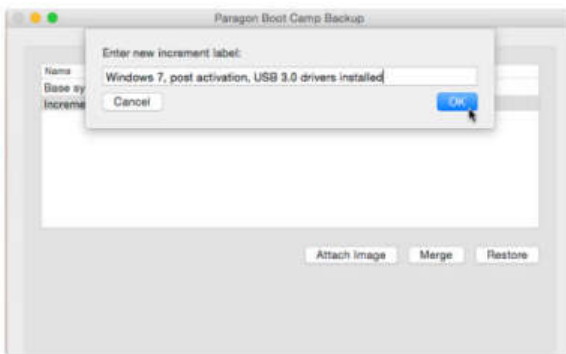
3 Take first backup

By default, Paragon will only back up your Windows partition on-demand – click the Enable button next to Auto-Protection if you want back up to a set schedule: click Schedule to choose daily, weekly or monthly backups. Once done, click the Backup Now button to take your first backup.



4 Update your backup

Once the backup is complete, continue to use Windows as normal. If you've not set automatic backups or want to take a manual backup, click the menu bar icon and choose Backup Now. The Windows drive is scanned, and all changes recorded to the backup incrementally to save space.

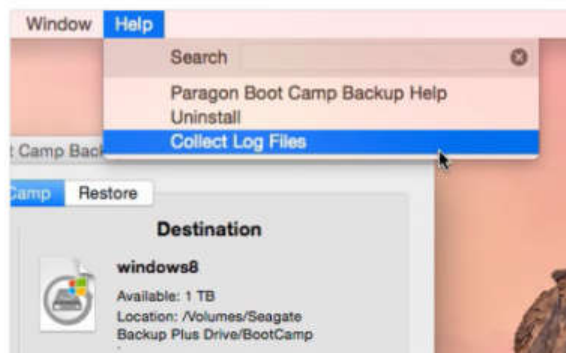
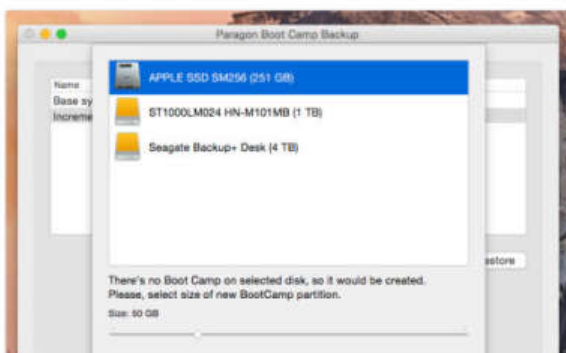


5 Manage backups

Open the program, then switch to the Restore tab. A list of backups is shown: Base Image refers to the first, while all subsequent backups are named Increment. To help identify them, click the Is Pinned box, enter a more descriptive name and click OK.

6 Browse backup

To view a backup's contents, select it and click Attach Image. It'll appear in Finder as an external drive, allowing you to browse it like any other drive. You can then copy files out of the backup to any other drive. When finished, open a Finder window and click the eject button next to its name.



7 Restore backups

Should the need ever arise, you can restore an entire backup of your Windows partition. Select the backup you want to restore and click Restore, then select the target drive and recreate the Boot Camp partition using the slider if necessary before clicking Restore again to recover Windows.

8 Troubleshoot problems

If you have problems with detecting your Boot Camp partition, don't panic. It may be because your hard drive is partitioned in a non-standard way. Open the main program and choose Help > Collect Log Files. Once done, email these files and your problem to feedback@paragon-software.com.

MERGE BACKUPS



You can't remove individual backups from your backup image, but you can merge an incremental backup with the previous one to save disk space. To do this, select the desired image from the Restore tab and click Merge.

JARGON BUSTER

Incremental backups are backups that scan the hard drive for changes since the last backup was taken. The backup then only records the changes made to reduce the overall size of the backup.

Edit images in Pixelmator

Unleash your imagination to create artwork by layering multiple pictures

SKILL LEVEL

Anyone can do it

IT WILL TAKE

30 minutes

YOU'LL NEED

Pixelmator, some image files



Pixelmator is a photo editor that packs a lot of power. It's built with the Mac in mind, supporting Force Touch, Extensions and integration with Apple's Photos app.

One of its most powerful tools is layer-based editing, which splits an image up into slices that can be edited separately. This can take a little while to

get your head around, but you can visualise it as sheets of acetate on an overhead projector, if you're old enough to remember such things – as we are!

Each element of your composition resides on a different sheet, and they can be reordered, repositioned against each other, and have new sheets added to the stack. The final image is the one projected on the screen, which contains

all the elements laid over each other, blending where they overlap and showing through in the clear spaces.

Our analogy breaks down when you start altering the way layers blend and interact with one another for creative effect, and adding details such as shadows and reflections. So, let's start up Pixelmator and see what we can create with it. **Ian Evenden**

HOW TO | CREATE A LAYERED, MULTIPLE-EXPOSURE IMAGE



1 Repair tool

We need a plain background. This lovely picture of the sea has a killer whale leaping uninvited into shot, but we can remove the interloper using the Repair tool, which can also remove spots, dust, scratches and former political allies. You can change the brush's size using the slider at the top-left.



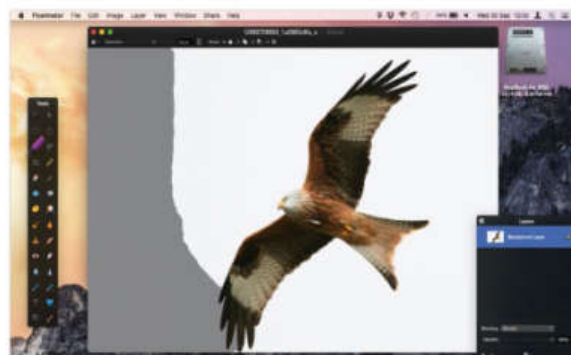
2 Brush it away

With a suitable size of brush selected, paint over the unwanted object. If it's small, like a spot on a model's face, use a quick dab with a brush the same size as the mark. We'll have to paint out our whale with multiple strokes using a medium-sized brush. Going over the edges is fine.



3 Stages of erasure

The Repair tool looks at nearby pixels to decide what to replace the unwanted object with. When removing a large object, painting in stages gave us a better result than erasing in one go. With your desired result, paint over any remnants with the Repair tool, blending the repair in so it looks natural.



4 Choose images

Pick two images to blend; one with a strong shape to it, the other something softer. To select this kite, we used Paint Selection to draw over its background. Pixelmator smartly selected the right areas – we inverted this, then copied and pasted it onto our background as a new layer.

EFFECTS PALETTE

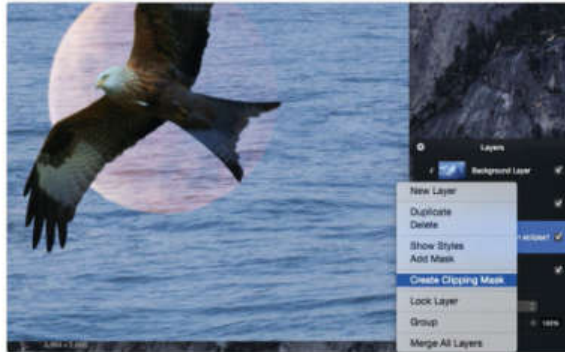
If you want a quicker and easier way of altering your pictures, look at the Effects palette. This is loaded with one-click filters in eight groups that can make a major difference to your images.

All of them can be faded out with the Saturation slider too.



5 Add more

Extra layers can be added using images on your Mac. Select Layer > New Layer and click Choose Picture. In the Layers palette, ensure your cut-out layer is just above the background, then stack the new images you're importing on top of it. Drag them up and down to change their order.



6 Clipping mask

Right-click each of the top two layers in the Layers palette and select Create Clipping Mask. The cut-out layer below should show through. If the strong shape isn't in the right place, hide the layers in front by unticking them, drag it into a better place, and then make the layers visible again.

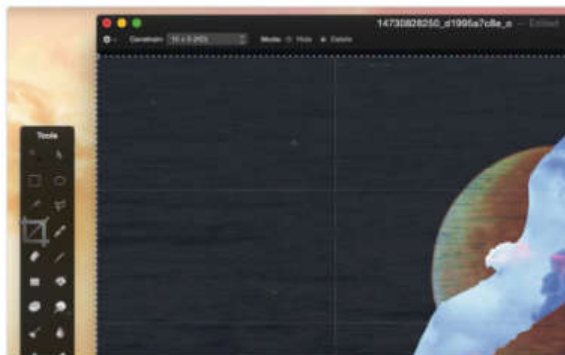
TYPE TOOL

Pixelmator's type tool does a little more than just allow you to put text on top of your images. The letters can be changed into shape layers, which can then have things like shadows and coloured gradients applied to them – you can even reshape the letters completely.



7 Blend modes

You can get a strong effect by altering a layer's blend mode, which sets how it interact with lower ones. Multiply blends colours by darkening them, while Screen inverts them first for a lighter result. Any layer can be faded by reducing its opacity, just under blend modes on the Layers palette.



8 Final touches

We've been left with a strip of sea up the right of our composition. This can be removed using the Crop tool, which provides preset aspect ratios and displays a grid representing the rule of thirds when dragged over an image. We've chosen a 16:9 ratio, with the kite and moon one-third of the way in.

THE END RESULT

➤ The final composition shows aspects of all four layers we began with: the shape of the kite and some feather detail, the ripples of the sea, the clouds and the blood moon can all be picked out. While some combinations of layers and blend modes are more effective than others, you should never be afraid to experiment – Pixelmator, like many other image editors, supports multiple levels of Undo, so rolling back less successful edits is just a case of pressing **⌘+Z**. The app can save in all major image file formats, and its Save for Web feature allows you to keep file sizes down without causing too much compression damage to your files. Exporting as a JPEG or PNG will flatten your layers into one, so to save your layers for later editing use Pixelmator's PXM file format.



180
PACKED PAGES

THE ULTIMATE **WATCH** HANDBOOK

The *only* guide you need to get the best from your Apple Watch

LEARN HOW TO...

- Master Watch apps
- Create custom faces
- Find secret features



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Encrypt docs for free

Encrypto protects your documents with a bit of personality

SKILL LEVEL

Anyone can do it

IT WILL TAKE

5 minutes

YOU'LL NEED

OS X 10.9 or higher



You can never be too safe with personal data, and in order to keep the docs you share a little more secure,

MacPaw's Encrypto (<http://macpaw.com/encrypto>) is a really easy to use Mac application for putting AES-256 encryption on your files for free.

AES-256 encryption is used by governments when sharing their data.

The encryption's security is based on the 256-bit length of its key (the equivalent benefits of having a longer password over a shorter one), and the number of hashes it uses (the number of times your data is changed into numerical information), which makes the code near impossible to crack.

One of the major benefits of sharing files using Encrypto is that the

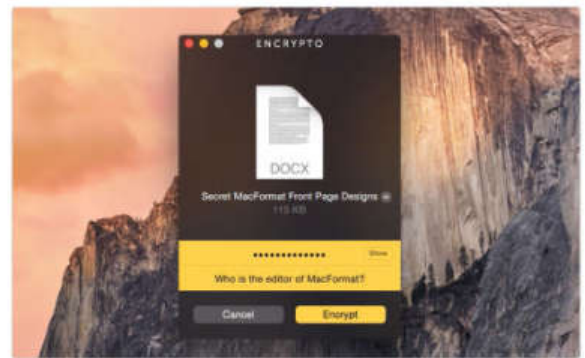
decryption password is never 'sent' – instead, a password hint is sent with the file that only the recipient would know the answer to. Plus, because Encrypto is available for both Mac and Windows, there's no chance of an operating system stopping the recipient from opening your files, although it does mean another app for them to download. **Adam Smith**

HOW TO | SECURE FILES USING ENCRYPTO



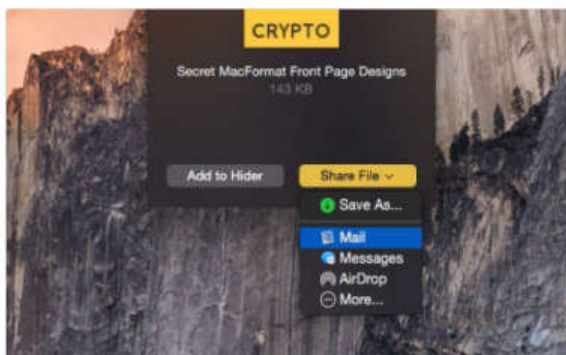
1 Select files to be encrypted

After downloading Encrypto, any file or folder that you want to encrypt can simply be dragged and dropped into the box in the middle of your screen. When the files have been added, the process will immediately begin, and convert your file into one with a '.crypto' file extension.



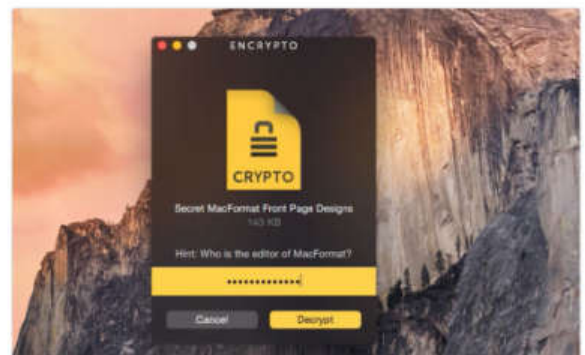
2 Create a password

Your Encrypto password can be accompanied by a specific hint. Type the password into the top dialogue box, then add your clue underneath. To ensure you don't make any typos, you can click the Show button to see your password in full, rather than a black dot per character.



3 Share your files

Using the drop-down menu at the bottom, you can decide how you want to send your files. As well as OS X's default apps like Mail, Encrypto allows you to use any third-party extension on your Mac. You can also keep the encrypted file on your computer using the Save As option.



4 Decrypt your files

To decrypt a file or folder that you've received or created, drag the encrypted icon into the Encrypto box – the app will ask for the password and display the hint. When the correct answer is given, a sleek animation shows the file being unlocked, allowing you to view a preview, or save it.

Share folders over the internet

Use the little-known 'Back to My Mac' feature to share files and folders

SKILL LEVEL

Taking things further

IT WILL TAKE

25 minutes

YOU'LL NEED

Two or more Macs running OS X 10.7.5 or higher, an AirPort Extreme or Time Capsule



The ability to share files over the internet is nothing new, but the way files can be distributed has

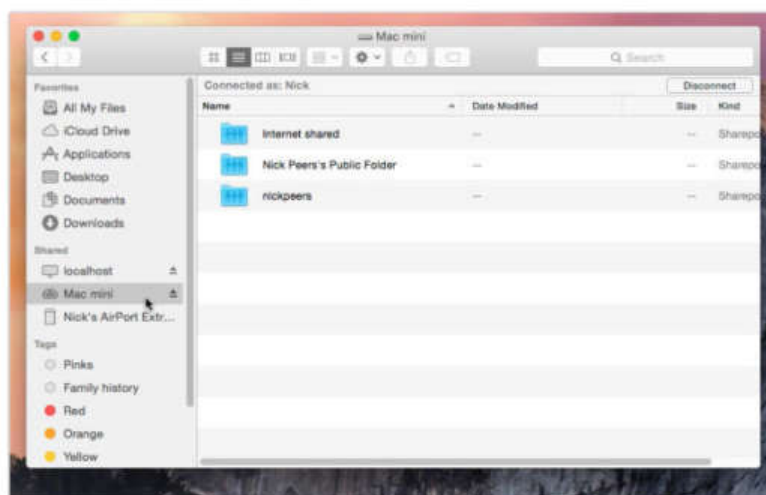
changed enormously over the years. One obvious solution is to store your files in the cloud, then provide shared links to those who need them, but even here there are drawbacks: the cost of storing tens of gigabytes of data online, as well as the inconvenience of having to upload them all to the internet in the first place. And what if you leave an important file behind?

The answer lies with creating your own personal cloud: a space on one of the drives attached to your Mac (or directly to your network). Simply copy or move the files in question to a shared folder, and you're done – whenever a file is needed, it'll be uploaded through your internet connection and transferred directly to the client requesting it.

The benefits of internet sharing are obvious, then, but how do you go about it? It used to be a tricky process, involving third-party utilities and a trip into your router's settings to open up ports, which left you potentially vulnerable to security threats. Thankfully, thanks to iCloud's 'Back to My Mac' feature, it's now a relatively simple task.

Set up Back to My Mac

Open System Preferences on your Mac and select iCloud. Scroll down to the bottom of the list of available services where you'll find Back to My Mac – tick the box and wait while it's set up. In most cases, that should be it, but you



Once set up, Back to My Mac allows you to access your Mac's shared folders remotely using Finder.

may encounter some hurdles to overcome. If you're running a firewall, you may need to tweak its settings to allow Back to My Mac to work properly (look out for a pop-up window requesting access, and grant it).

The big issue with Back to My Mac is that it's not geared towards sharing your drive with other users

You'll also need to be connected on both sides through a router that supports UPnP or NAT-PMP – most modern modem routers, including Apple's AirPort range, should support these protocols out of the box.

When you next log on to your remote Mac, you should find your connected Mac is now visible in the Shared section of a Finder window. Select it and click 'Connect as' to log in using your user account on that Mac. You'll now have access to your personal folder and any other shared folders on your home Mac.

You can return the favour too: simply switch on Back to My Mac on your second computer, and you'll be able to access its contents from the first.

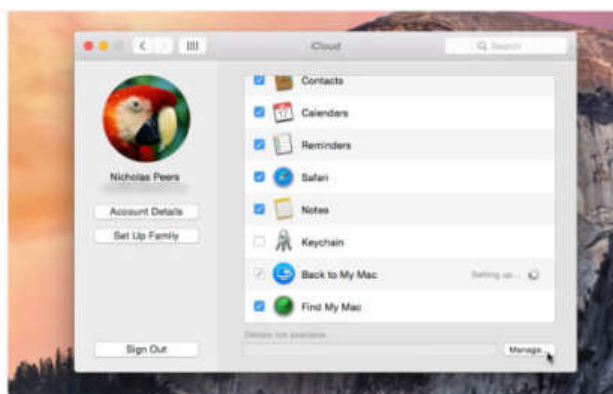
Tighten security

Now that your Macs are accessible from outside your home network, it pays to tighten security – perform the following audit on all your connected machines: First, review both your iCloud and OS X user account passwords and strengthen them if necessary. Next, open System Preferences > Security & Privacy and select 'Require password immediately after sleep or screen saver begins'. Now navigate to Users & Groups and select Login Options (you may need to unlock System Preferences at this point) to set 'Automatic login' to Off. Finally, open Applications > Utilities > Keychain Access, select Keychain Access > Preferences and switch to the General tab. Select 'Show keychain status in menu bar' and a small padlock icon will appear on the menu bar – you can click this to lock your Mac's screen manually.

Access storage remotely

You can also gain access to drives plugged directly into your Apple Extreme router. The step-by-step guide opposite reveals how to access it two different ways: the first using Back to My Mac, which will give you access to the plugged-in drive through the Shared section in Finder, and another option that will allow you to share the drive securely with others without having to reveal your password. **Nick Peers**

Switching on Back to My Mac is often as simple as ticking its box under iCloud in System Preferences.



HOW TO | SHARE YOUR AIRPORT-CONNECTED DRIVE

1 Use Back to My Mac

Open AirPort Utility from Applications > Utilities, select your Apple Extreme or Time Capsule router and click Edit. Click the + button on the Base Station tab to enter your Apple ID and link it to the router. Next, switch to the Disks tab and tick the boxes marked 'Enable file sharing' and 'Share disks over WAN'. Next, decide how you want to connect to the router – by default you'll need to supply your router's password, but click the Secure Shared Disks pop-up menu to connect using a specific password you set up for the disk or using accounts. The latter option allows you to enter your account details (username and password) and then connect using those if you wish. Once you're done, click Update and wait for the router to restart.

When you next log in to your remote Mac you'll need to enable two additional features to access your router's storage: open System Preferences, click Sharing and verify File Sharing has been ticked. Now click the back button and click iCloud, then put a tick next to Back to My Mac to enable it on that Mac.

Once done, you should see the router appear in Finder's Shared list – click it, then click 'Connect As...' to log into it using the password or username and password combination you set up earlier.

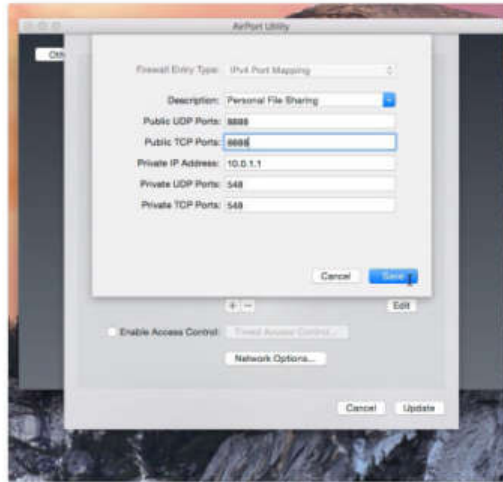
2 Share drive with others

The big issue with Back to My Mac is the fact it's not geared towards sharing your drive with other users. If you'd like to open up the drive to more than one person then you'll need to configure it differently.

To go down this route, first open AirPort Utility from the Applications > Utilities folder. Click on the image of your router and make a note of both IP address (we'll refer to this as 'public IP address' going forward to avoid confusion) and LAN IP address in the pop-up window that appears. Once you've jotted down those details, click Edit.

Next, switch to the Network tab. Verify that 'Router Mode' is set to 'DHCP and NAT', then switch to the Disks tab. Your connected drive should be visible here. Tick the 'Enable file sharing' and 'Share disks over WAN' boxes, then choose what kind of security you want to apply to the drive. This is where selecting Accounts may be of most use, as it allows you to allocate different levels of access to different people.

Next, switch back to the Network tab. Click + under Port Settings and select 'Public folder sharing' under the



Setting up your AirPort Extreme to allow others to access your drive is a little more complicated.

Description drop-down menu. Ignore the warning, then type 8888 in both the 'Public UDP Ports' and 'Public TCP Ports' boxes. Change 'Private IP Address' to your LAN IP address – typically 10.0.1.1 – and then type 548 into both the 'Private UDP Ports' and 'Private TCP Ports' boxes. Click Save. Finally, click Update and wait for the changes to be applied. Your AirPort-attached storage is now technically accessible over the internet.

3 Access the drive remotely

It's crunch time: you need to now access the drive remotely to verify it's accessible. You'll need to do this from outside your local network. The simplest way to do this without leaving your home is to use your mobile broadband connection – if your phone can be set up as a Wi-Fi hotspot, connect to that from your Mac, or use a mobile broadband dongle. If you've left the AirPort Utility open you can verify you've switched to this network as the router should grey out (or vanish completely).

Once you're connected to your new network, open Finder and choose Go > Connect to Server. Type `afp://0.0.0.0/` into the 'Server Address' box, replacing 0.0.0.0 with the public IP address you recorded earlier. Click Connect – you should hopefully make a successful connection (be prepared for a lengthy pause), and once you've entered the required username (which can be anything if you've chosen to simply password-protect the disk) and password, the drive should show up in Finder.

If you can't connect, and you've checked your settings, there's a chance that something else – a firewall, your ISP or even your broadband modem – is blocking the connection.

4 Dynamic DNS

One final thing: your public IP address is liable to change over time, so if you suddenly can't connect, the first thing to do is verify what your current public IP address is by looking in AirPort Utility. If you find your public IP address changes frequently, consider making use of a dynamic DNS service, such as noip.com/free.

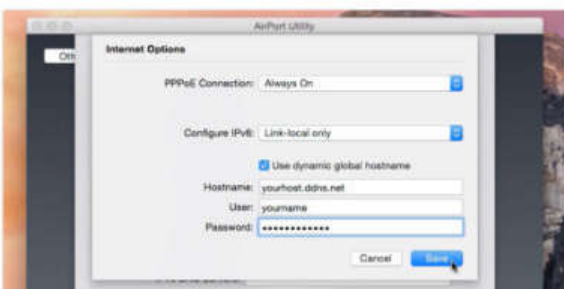
Once signed up to the service, open your router's settings in AirPort Utility, switch to the Internet tab and click 'Internet Options...'. Tick 'Use dynamic global hostname', enter your hostname (xxxxx.ddns.net) and user credentials. Click Save > Update, then test the connection by trying to connect to the server remotely using `afp://xxxxx.ddns.net`.

You'll be asked to download a client that automatically keeps an eye on your public IP address – when it changes, the client will automatically update your DNS settings so your hostname continues to work without interruption.

JARGON BUSTER

Dynamic DNS

A service that can help make a memorable hostname for others to connect to in place of IP addresses. It automatically checks for changes to the host's IP address, and updates DNS servers for easy access.



Use Dynamic DNS for a consistent server name for your AirPort-connected gear.

Create custom vibrations

Find out who's calling without looking at your phone

SKILL LEVEL

Anyone can do it

IT WILL TAKE

10 minutes

YOU'LL NEED

iPhone, iOS 6 or higher



One very useful thing about the Apple Watch is being able to see who is calling without pulling your iPhone out of a pocket. However, your iPhone is already equipped to help you with this. You can complement the ability to assign tones – built into iOS, downloaded from the iTunes Store, or created using GarageBand – with vibration patterns to indicate the type of event the phone wants to draw attention to.

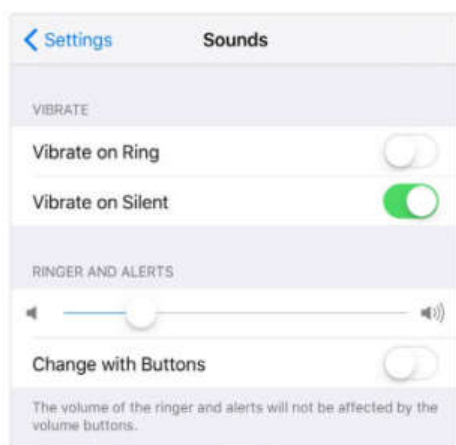
iOS comes with a bunch of predefined vibration patterns, which might be all you need. If you find yourself making extensive use of the feature, you can make your own patterns just by tapping on the screen. Either way, vibrations can be set to occur when the mute switch is engaged, when it's off – or both!

Like sound effects, patterns can be assigned to common events – incoming calls or texts, new email, calendar and reminder alerts and more – but that's not all. If you have specific people whose calls or text messages you really don't want to miss, such as your boss or immediate family members, you don't need an Apple Watch to give you a gentle nudge because your iPhone enables you to assign vibration patterns to individual contacts too. **Alan Stonebridge**

You don't need an Apple Watch to get nudged when someone calls or texts you

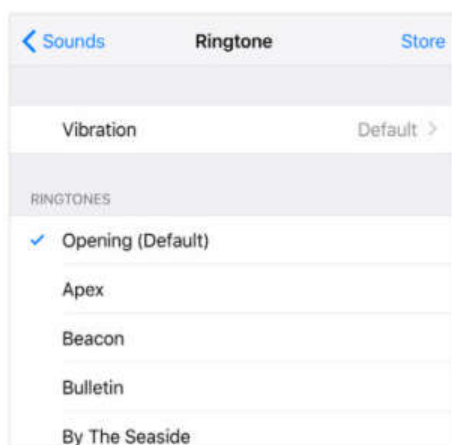


HOW TO | ASSIGN VIBRATION PATTERNS TO EVENTS



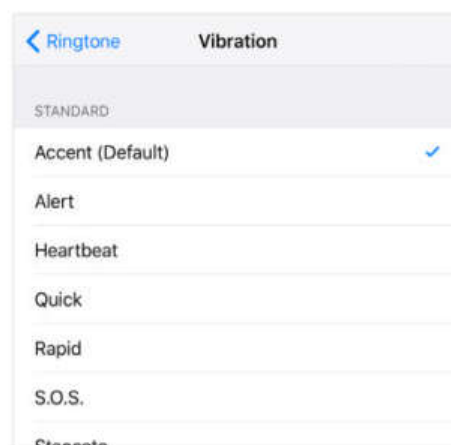
1 Set when to vibrate

Go to Settings > Sounds. At the top of the page, decide whether your iPhone should vibrate whenever a call is received and all sound is turned on (Vibrate on Ring), and if it vibrates when the Mute switch on its side is engaged (Vibrate on Silent); you might leave the latter off if you attend a lot of meetings and don't want even a subtle vibration to seem rude.



2 Events that can vibrate

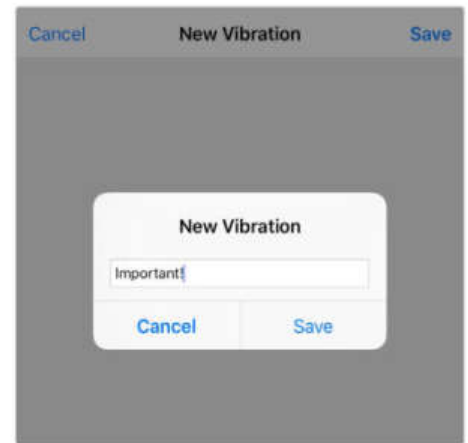
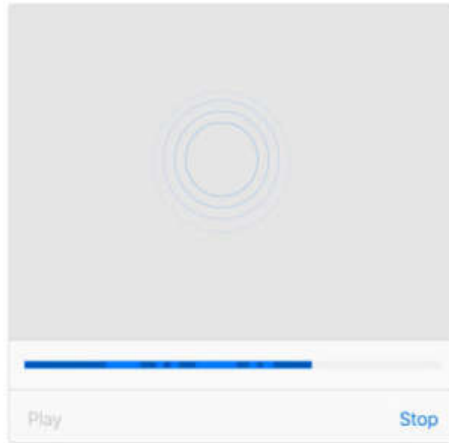
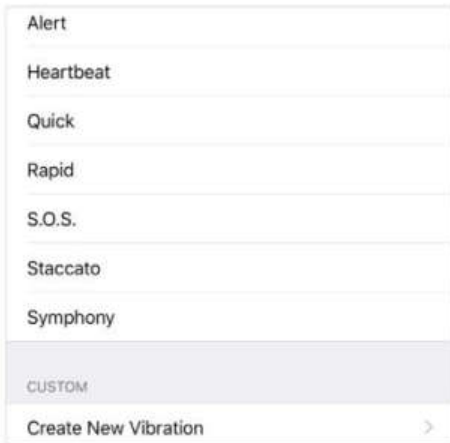
Further down the Sounds settings page is a list of events that trigger sound effects. What isn't immediately clear is that these items can have a vibration pattern assigned as well as – or instead of – a sound. Tap one and you'll find a Vibration setting; it's above the list of available sounds, so depending on which of those is selected, you might have to scroll up to see it.



3 Assign a vibration

Tap the Vibration setting and you'll be presented with standard patterns made by Apple. It's set to None by default for the majority of events. Tap the patterns in the list to try them out. You might well find that Apple's own are distinctive enough if you only want to assign vibration patterns to a few events. However, you can be more specific with pattern assignments.

HOW TO | CREATE YOUR OWN VIBRATION PATTERNS



1 Tap out a pattern

In the same place you can assign one of Apple's own vibration patterns, tap the Create New Vibration option below the list of them. The screen turns largely grey. Tap or hold your finger in that area to build up a pattern. It might take a minute or so of practice to get used to the sensitivity of the interaction. Don't worry if it takes you several attempts to get a good result.

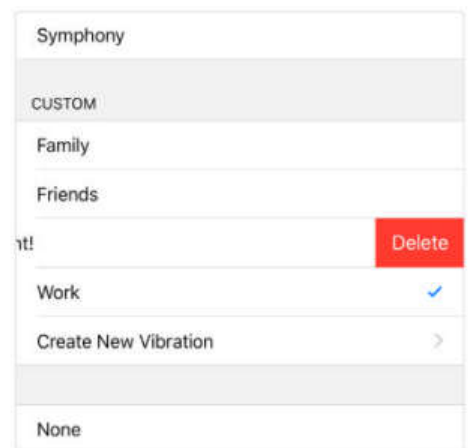
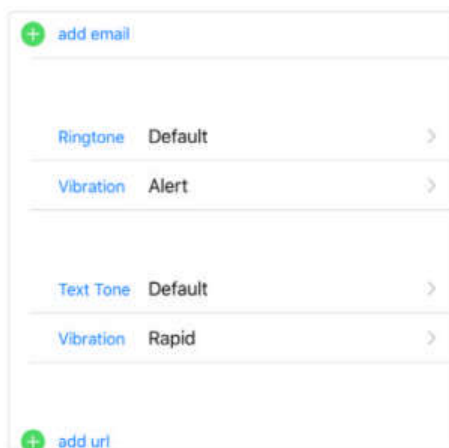
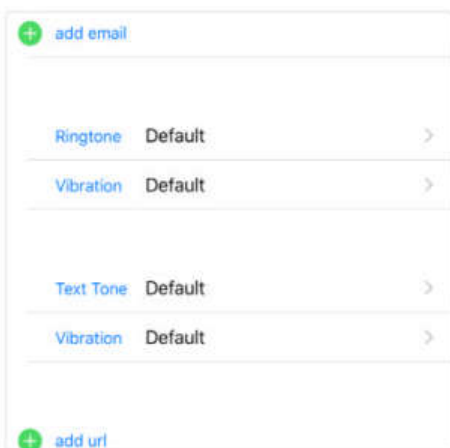
2 Choose your timings

As you lay down a pattern, a blue bar starts to run across the bottom of the screen. There's a maximum length to vibration patterns, but you don't have to fill it. Tap Stop at any time to keep only the duration that has passed – but bear in mind that moments of stillness can be as helpful as vibrations are in telling you what event is taking place.

3 Save and assign it

Tap Play to check whether your pattern is good enough, or tap Record to take another stab at it. When you're happy with the result, tap Save, give your pattern a name when prompted, then tap the dialog's Save button. Your pattern will then show up in the list headed Custom, ready to be assigned to events or even to a specific contact.

HOW TO | ASSIGN VIBRATION PATTERNS TO INDIVIDUALS



1 Choose a contact

Vibration patterns can play in response to more than just broad events. They can be assigned to play when specific people call you or send you a text message. Open the Contacts app, tap on a contact's name to see their details and then tap Edit. Scroll down the list of data you can set for a person until you come to the Ringtone and Text Tone options.

2 Assign to calls or texts

Notice that Ringtone and Text Tone each have Vibration settings immediately below them, enabling different pattern assignments to be set for the two events. Tap one of them, then tap either one of Apple's patterns or your own (or you can create a new one from here as well) to assign it to that event for this contact only. Tap Done, then Done again to save your choices.

3 Manage custom patterns

Vibration patterns cannot be assigned using Contacts app in OS X or at iCloud.com, and so there are no shortcuts to assign them to whole groups at once. At the list of custom patterns, you can delete one you no longer want by swiping left on it and tapping Delete. Places where that pattern was used will show as 'Unrecognised Vibration' and use a default one.

Wake up with an alarm

After a little late-night reading, use your iPad to rouse you from slumber. . .

SKILL LEVEL

Anyone can do it

IT WILL TAKE

10 minutes

YOU'LL NEED

iPad, iOS 9



The Clock app is capable of doing much more than just telling you the time – after all, you can see that at the top of the screen in most places in iOS. The app also has stopwatch and timer functions, but it's the alarm clock feature we're going to talk about.

Like an old-school alarm clock, the app can wake you with a blaring klaxon,

yet it also lets you wake to far more soothing sounds if you prefer to start the day with a little less of a fright. New tones can be bought from the iTunes Store (which you can then use as sounds for other iPad features, such as FaceTime), or you can use any of the songs you've downloaded to the Music app, or synced from iTunes on your computer. However, songs will play from

their beginning; to choose a specific segment of a song, import it into GarageBand to trim and export the range you want to hear.

When an alarm sounds, you can get nine extra minutes of rest by tapping the screen or using the iPad's physical volume controls. And you can use Siri to check, set and even delete alarms.

Alan Stonebridge

VISUAL GUIDE | THE CLOCK APP

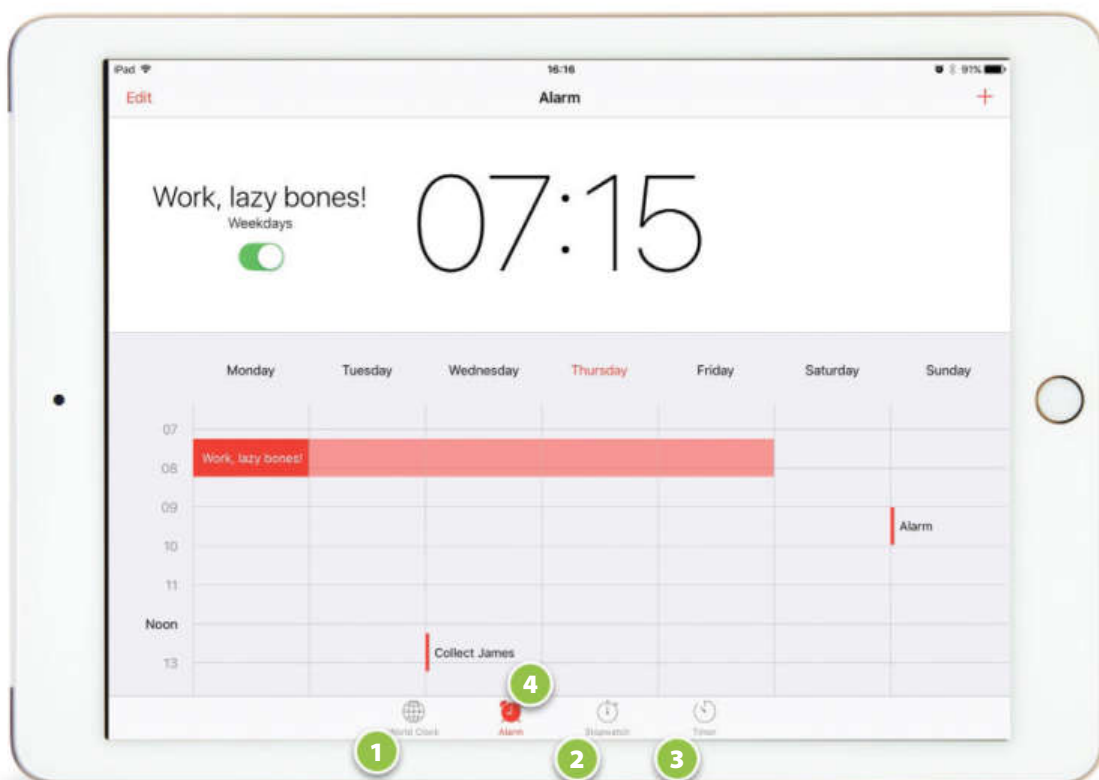
Take a whirlwind tour of the four major features of the iPad's Clock app

World Clock

1 This shows the time, temperature and weather conditions at major cities of your choice. Tap one of the slots marked with a + at the top of the screen, then type into the search bar or scroll through the list to find the location you want to see on the map. When all of the visible slots are filled, swipe leftwards on their row to bring another six into view.

Stopwatch

2 This will be indispensable if you are responsible for a sports team or are helping out a friend with their training. Tap Start to begin counting, and then tap Lap at the appropriate time to record each circuit to the log (the stopwatch will keep counting), or tap Stop when you're finished. Sadly, the Clock app provides no way to export your lap times; you can take a screenshot by holding the Home button and quickly pressing the sleep/wake button. The screen will flash to confirm, and the screenshot will be added to the Photos app. However, if you're doing serious training, you should investigate the Health & Fitness category in the App Store.



Timer

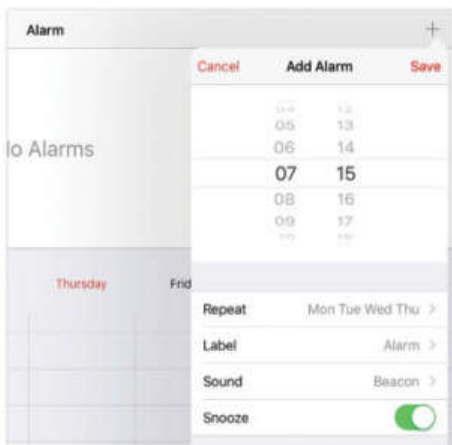
3 Dial in how long you want the app to count down, in hours and minutes, and tell it what sound you want it to play at the end. Like the Alarm feature, you can ask Siri to set a timer; the "Hey Siri" shortcut (Settings > General > Siri) is particularly useful if your hands are busy in the kitchen.

Alarm

4 Tap this to see your alarms on a week-long view, similar to how events can be shown in the Calendar app. Each alarm shows its label, but if several occur in a short space of time, you'll only see the label of the latest one in that group; the earlier alarms around that time will be

reduced to tall, thin bars. You can't just tap on the view to set an alarm, but you can tap and drag existing alarms up or down to adjust their time – they'll snap to zero, 15, 30 or 45 minutes past the hour, unless you first drag your finger left or right off the alarm – after which dragging vertically moves the alarm in five-minute intervals.

HOW TO | SET AND MANAGE YOUR ALARMS



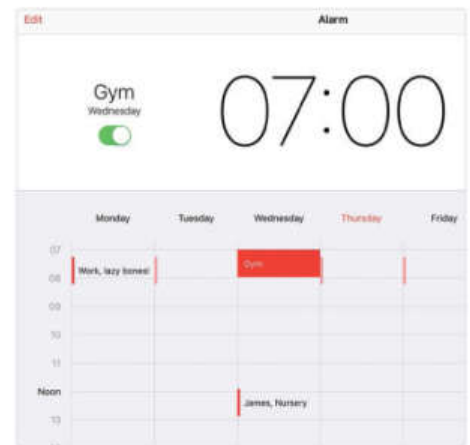
1 Set an alarm

Tap Alarm at the bottom of the screen, and then the + at the top-right corner. This opens a form in which you set up your alarm: its time, how often it repeats, a label ('Alarm' by default, though customisable), which sound or song will be played, and whether the snooze option is even available. Dial in a time, then tap Repeat to choose the days of the week on which the alarm will be active. When you have at least one alarm turned on, a tiny alarm clock icon near the right of the status bar will remind you.



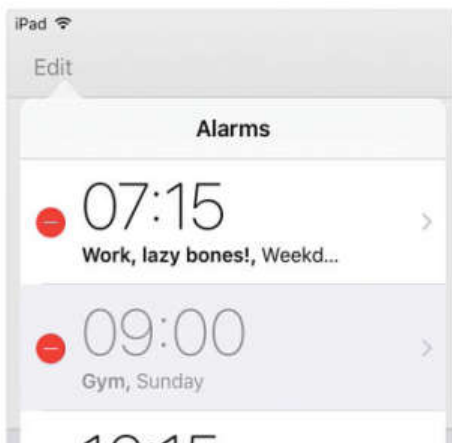
2 Snooze options

The Snooze switch is turned on by default for new alarms. If you leave it on, you'll be able to mute an alarm by tapping a small piece of text on the iPad's Lock screen, or by pressing one of the volume controls. The alarm will trigger again nine minutes later. With Snooze disabled, you'll need to swipe on the screen to dismiss the alarm. You can work around the inability to customise the snooze duration by setting a second alarm to give yourself the extra amount of time in bed that suits you.



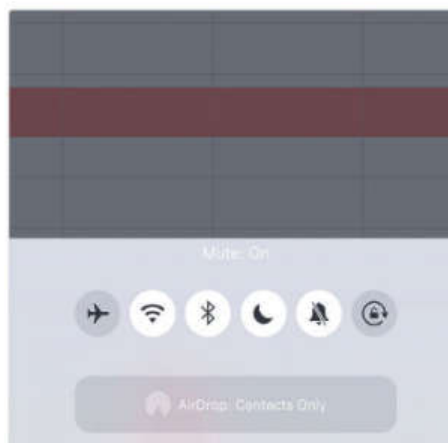
3 Switch off alarms

Tap Save and your alarm will appear on the week-long view; although setting labels is optional, it's a good idea to change them if you have many alarms, to help you remember their purpose. Tap an alarm (it'll be highlighted in red) and you'll see its exact time at the top of the screen. Note the adjacent switch, which sets whether the selected alarm is active; you can use it to, say, temporarily turn off your morning alarm when you're on holiday – but remember to come back and turn it on later.



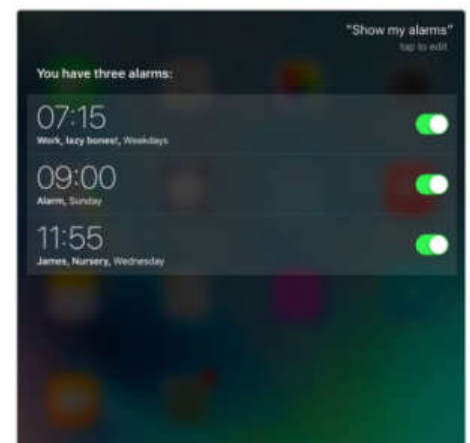
4 Review alarms in a list

Tap Edit at the top-left to see all of your alarms in a list, ordered chronologically by time of day, but not necessarily by day of the week (because some might occur on multiple days). Active alarms have a white background, inactive ones are grey. Tapping an inactive alarm and then Save turns it on. You can tweak any of the settings you chose in step 1 here. Also note that when creating or editing an alarm, you can set it to a precise minute, not just the five- or 15-minute intervals available on the week view.



5 Mute/Do Not Disturb

The Mute switch in Control Centre (iPad Air 2/iPad mini 4; it's a physical switch on iPads that are older) silences the sounds from notifications, alerts and effects such as the keyboard clicking, but it doesn't silence purposeful sound, such as music, videos and, of course, your alarms. Likewise, alarms are an exception to the range of sounds that are silenced when you turn on Do Not Disturb in Control Centre, so you can safely shut out intrusions with the assurance you'll be woken.



6 Control alarms with Siri

You can ask Siri to set alarms with phrases like "Set an alarm for 7" and "Wake me tomorrow at 8". Ask it to show your alarms and it will display all of them (or a summary, if there are many), or you can ask for those in morning, afternoon or evening. It can change your alarms, too ("Change my 8am alarm to 7"). If you have few alarms and don't mind recreating them after a holiday, say "Delete all alarms". Remember, you can say "Hey Siri" to instruct your iPad as long as it is connected to an external power source.

Apple TALK

Have your say on everything Mac, OS X and iOS



Welcome...

There's always plenty to say about Apple, whether it's good or bad. And we'd particularly love to hear what you think? Write to us at letters@macformat.com and the remember, the Star Letter wins a prize!

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STAR LETTER

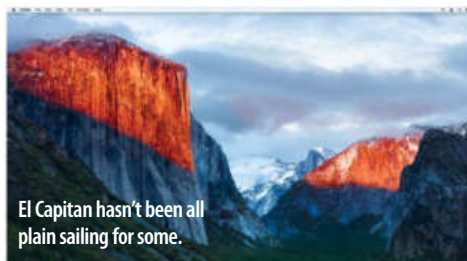


Cliff edge

Well, El Capitan has arrived – and thanks to all the prep work you have done to help us, so far so good. However, there is some odd behaviour out there, not all of it related to El Capitan, I suspect. Can you help?

No matter what I do I am unable to get my iMac (late 2013 27-inch) to connect with my iPhone 5s or my iPad 2 over AirDrop. Both of the iOS devices connect via Bluetooth to each other, non-Mac devices such as my car and remote speakers. I have tried all the usual routes, but oddly when I look at it in System Preferences it says that Bluetooth is switched on – when I check it says that 'Bluetooth (Discoverable)' is turned off. I am not sure how I can change this. From the internet I note that AirDrop is proving a problem and I have tried some of the solutions posted, but none have worked.

I have a bit of an issue with Adobe Reader as it keeps opening up in the Dock. I have tried all the suggestions you put in the mag and it is not checked in Users and Groups.



El Capitan hasn't been all plain sailing for some.

When I try and drag it off the Dock it jumps back on, and no matter what I try I cannot install Flash – yes, I know you said it is resource hungry but that is not a problem on my Mac. Uninstall and reinstall?

As for iOS 9.0.2, whilst in Spain recently I kept getting a message in Mail to tell me to reconfigure the server, but how on earth do you do that away from home? There was not a problem with non-iCloud mail such as Google but Mail was so problematic that I had to ditch it and use Google.

I believe that I am fairly tech savvy and if I am having these issues I suspect others are too. I know that if there is an OS glitch Apple will fix it eventually and I suspect that if they don't you guys will tell us how to. Keep up the good work.

David Simpson



YOU'RE A WINNER!

Drop us an email at letters@macformat.com. If yours gets picked as the MacFormat Star Letter, you win a Just Mobile AluCable Flat for connecting iOS devices with a Lightning port to a Mac.



Christian Hall says... We've been having the same issue with AirDrop here – even on a clean install of El Capitan. The quantity of forum posts suggests that it's common. We hope OS X 10.11.1 – in its third beta now – will fix this. The Bluetooth issue might be a different thing – we had similar problems in Yosemite in the past.

The iCloud mail issue sounds like a temporary network issue. We've had a couple since launch, though they seem to have fixed themselves.

Regarding Adobe Reader, it sounds like it's still open – is there a light below its icon? Does it show up (and can you quit it) in Activity Monitor?

Drive time

Having recently purchased a Retina 5K iMac with a 7200rpm drive, I quickly realised the mistake I made. I've been trialling various Thunderbolt bus-powered drives as a replacement boot drive (LaCie Rugged and OWC On-The-Go Pro), but note that Sonnet have just produced what looks to be a potential market leader. The company claims transfer speeds over 1300MB/sec.

Can I ask if you have any plans to review this product in an upcoming edition? They are extremely expensive, and I would not like to invest that kind of money, should their claims not hold up.

Lee Colman



Alan Stonebridge says...

We aren't planning on reviewing Sonnet's Thunderbolt 2 products because they're really aimed at creative professionals who need their extreme throughput to support things like 4K video. That's not to say you can't use them for other things, but it's a huge extravagance.

In the past we've fitted older MacBooks with SATA-III SSDs and added a USB 3.0 SSD in a sub-£20 StarTech.com enclosure to an iMac with good results. Both of those interfaces are unable to reach the Sonnet drive's transfer rates, but those routes will still transform your iMac experience.

After adding an SSD, consider running `sudo trimforce enable` in Terminal. This switches on support for the TRIM command with third-party SSDs. However, precisely because this is a non-standard way of operating – and because the command warns of the *potential* for data loss, you should absolutely be backing up.

App backups

I like to keep backups of all my iOS apps (I share a few with family) but noticed that I can no longer transfer purchases in the latest iTunes (12.3).



Transferring purchases from iOS devices to OS X is having problems.



A bare SSD in a USB 3.0 enclosure is an affordable way to add fast storage.

Having just updated to iOS 9 I've had a lot of apps update, so I have over 100 apps to transfer across to my Mac for safekeeping (I do use iCloud though, of course). Why is this no longer working? Is it iTunes, El Capitan or iOS 9 that's at fault?

Nial Worthington



Paul Blachford says...

We've noticed the same thing, Nial, and have asked for clarification from Apple. We'll tweet something as soon as we hear from them. It does appear to be a bug in iTunes rather than iOS or OS X (it affects Yosemite with iTunes 12.3 too). There's a long thread here where others have been pointing out this issue: <https://discussions.apple.com/thread/7218207>.

Bookworm

As a recent Mac user, I was interested in the article about borrowing free library ebooks. However, I spent a long time trying to find the free app in the App Store to no avail. Just in case others are struggling to access OverDrive, I wanted to let you know that I simply accessed the library website, where I am a member, the icon was displayed to click on, without downloading anything I was able to access the books using my library card number.

It works really well and is simpler to use than it appears at first. It's a great find, so thanks to the team for alerting readers to this.

Pauline Dawes



Alex Blake says...

Thanks, Pauline. We were actually talking about the iOS version of the

OverDrive app in our tutorial (for iPhone, iPod touch and iPad – the version we specifically looked at), but it is available for the Mac desktop from <https://app.overdrive.com>.

Ebook lending through OverDrive is indeed available from certain UK libraries now. They provide a handy search at atoverdrive.com/libraries. We think it's great that libraries are taking ebook lending seriously, which will hopefully keep more of them open in the future.

Mac friends

Each month I always check out the User Groups section, hoping a new MUG for the Cambridge area has been created by someone. I expect there is a fairly large Mac user base around Cambridge and would love to meet up with fellow Mac users.

Do you get many enquiries from the Cambridge area, and if not can we ask for interested members? I would be happy to organise something but would need a little help finding potential members.

Dylan Morton



Christian Hall says...

We're glad to read that you're interested in MUGs and starting a group of your own, Dylan. Your first port of call should be to chat to Mac Users UK (macusersuk.org), which describes itself as "the home of all Macintosh User Groups in the UK and Ireland". You could try contacting or even travelling to a MUG in a neighbouring area to make connections there. Some of its members might know people closer to your area who would also like to see a Cambridge MUG. Readers, let us know if you're interested in joining Dylan's group.

Many UK libraries now support the lending of ebooks through the OverDrive service, expanding your lending options when you visit.



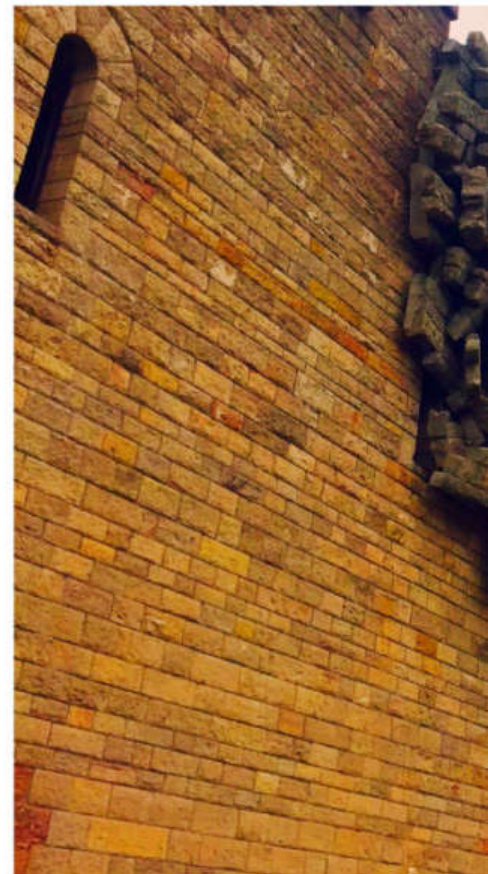
PhotoSTREAM

Send the best of your iPhone shots to photos@macformat.com

Maltese vista The perfect weather for the perfect panorama. Jake Taylor used the Camera app's panoramic setting, and a steady hand, to capture this fine view of the citadel in Gozo.



Rigmarole Shaun Gallagher used the Noir Photo app and an iPhone 6 for this moody shot. of the Rigger Bar in Elton, Cheshire.



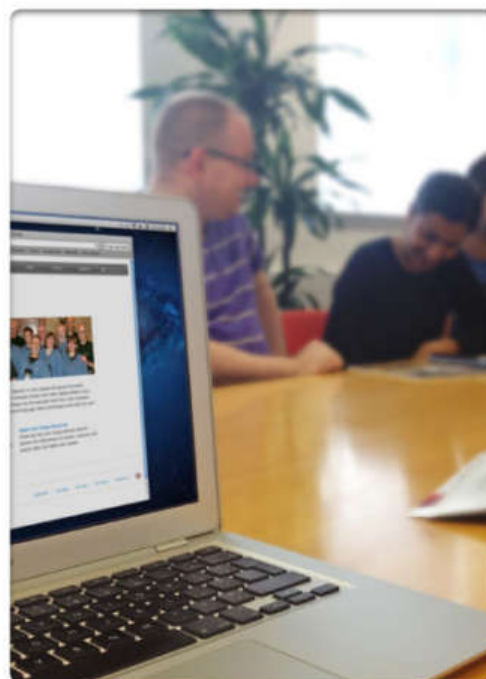


Wall of words Egg-sploding into view is the World Cup Rugby ball in Cardiff. Matthew Smith got into a great position with his iPhone 6 for this one.



User Groups

Find fellow Mac enthusiasts near you!



Search the list below to find your local Mac user group – and if you can't find one, why not start one yourself? It's easy and fun.

Berkshire MUG

vlburia@me.com

Bracknell Forest MUG, Bracknell, Berks

bfmugoffice@gmail.com
bfmug.org

Bristol and Bath MUG

robert@bbmug.co.uk
bbmug.co.uk

ClubMac Ireland, Dublin

secretary@clubmac.ie
clubmac.ie

Cork University College, Cork

d.murphy@cs.ucc.ie
ucc.ie/mug

Cotswold MUG

paul@cotsmug.org
cotsmug.org

Cumbria Mac Enthusiasts, Barrow-in-Furness

contact@macenthusiasts.co.uk
macenthusiasts.co.uk

Edinburgh MUG, Edinburgh

Twitter: [@edmug](https://twitter.com/edmug)
edmug.org.uk

Exeter MUG, Exeter

examug@mac.com
examug.org.uk
Twitter: [@examug](https://twitter.com/examug)

London MUG, London

secretary@lmug.org
lmug.org.uk, [@londonmacgroup](https://twitter.com/londonmacgroup)
Facebook: facebook.com/groups/35108081221

Midlands MUG, Birmingham

mmug.org.uk

OxMUG, Oxford

oxmug.org

South Essex MUG, Wickford, Essex

seal-apple.co.uk

South Wales MUG

terence.neels@btinternet.com

Suffolk Mac User Group, Ipswich

mikekwasniak@me.com
suffolkmacusergroup.co.uk

Sussex MUG

adamfield@gmail.com
sussexmug.org.uk

Three Counties MUG Luton, Bedfordshire

chris@3cmug.org.uk
3cmug.co.uk

Wessex MUGs Fareham, Dorchester, Bournemouth & Salisbury

www.wamug.org.uk



The home of technology

techradar.com

GET IN TOUCH

If you have a technical issue that you need help with, please email us at: sos@macformat.com

MacSOS

Your questions answered by our Apple expert in residence, Luis Villazon



Preserving your ancient videos

Q I have recently switched to an Apple laptop from being a Windows user. I have a large collection of VCD videos and cannot find an app that will play them.

Ed Murray

A For the benefit of anyone under the age of 35, the Video CD format was an early successor to VHS tape. It stored up to 74 minutes of digital video on a CD, at a resolution of 352x288 at 25 frames per second. This is actually worse than VHS, although it doesn't degrade over time the way that VHS tape does. VCDs basically went extinct as soon as CD-R was invented and anyone could make perfect copies of their VHS tapes.

You could still play VCDs in OS X under Mountain Lion by directly opening the .dat file on the disc in QuickTime Player. But this only works with a directly connected optical drive, you won't be able to use OS X's Remote Disc feature to stream the video from another computer's drive. You might consider converting your VCDs to a DVD-Video because you can fit around six VCDs on a single-layer DVD-R.

However, even DVD-R is on its way out and it might be simpler to copy the video files off the disc onto a hard disk that you can backup easily. Then, you should be able to play the video files on your Mac using VLC Media Player (free, videolan.org).

Once these shiny discs were the future of digital video. Then flash memory got cheaper and we all moved to memory sticks.



I don't want to waste my monitor

Q I am due for a new Mac and I'm struggling to decide which is the better option: the 27-inch Retina iMac or the new Mac Pro. I already have the 27-inch Thunderbolt Display, to use with my current Mac Pro (Mid 2010), so getting the iMac feels rather like I'd be wasting this capability. But would the upgrade to the 5K screen be worth it? I primarily use my Mac for video editing and 3D mapping, but also for all the usual email and web browsing tasks, of course.

Jorik Sigmondson

A The cheapest Mac Pro currently costs £2,500. For that you get a 3.7GHz processor, 12GB RAM, dual 2GB graphics cards and a 256GB solid-state drive. If you upgrade the 5K Retina iMac to the nearest equivalent spec, it ends up costing about the same. There's only one graphics card in there, but you do get the 5K screen. The decision then comes down to what matters more: video frame rates (and thus the Mac Pro's dual graphics cards) or superior screen resolution.

In your position, I think I would opt for the Mac Pro. I've tried the 5K screen in the Apple Store and my eyesight isn't really good enough to appreciate the difference – but try to get to a store and check for yourself. Having the screen and the Mac separate has the advantage that if one fails, it doesn't take the other down with it. The Mac Pro also has much better cooling than the iMac. If you spend long hours running graphically intensive software, this can make a big difference to the lifespan of the hardware. The Mac Pro also has a better upgrade path. If you later decide

you need a 5K display, sell your existing one and buy a Dell 27-inch Ultra HD monitor. If the iMac's graphics performance turned out to be insufficient, you'd have to replace the entire machine. That said, if you can hold off for a bit, wait for the Mac Pro to be refreshed to future-proof it for a bit longer.


The Mac Pro has far more performance than most people will ever need and is the easiest Mac to upgrade.



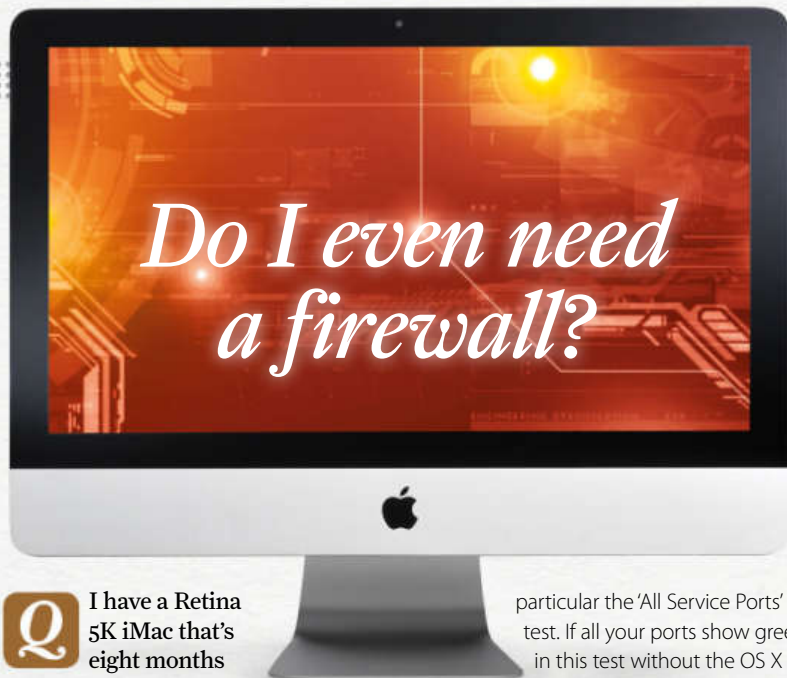
I can't boot my MacBook Pro

Q I have a 2012 MacBook Pro that wasn't booting because the hard disk died. I have a clean install of Yosemite on an SSD, which the MacBook starts up from over USB – but not when I install it in the MacBook. I know I didn't damage anything during the install, because I can take the SSD out and it works over USB. What would stop it booting when the drive is internal?

Jonathan Harpen

A Have you held  while restarting to ensure that you actually have the internal drive selected and the MacBook isn't trying to start up from a non-existent USB drive? After that, the most likely cause is that the internal drive cable is damaged. They are quite delicate and this might even be why you had trouble in the first place, rather than the drive itself.

If you swap your MacBook's storage around, it's easy to damage that delicate ribbon cable.



Q I have a Retina 5K iMac that's eight months old. Since I turned on the firewall a few weeks ago, there is a warning message after log-on: "Application ccpd wishes to have access, accept or deny". I always deny permission but I'd like to know what this application is and whether access should be granted. Secondly, is it best to have the firewall on?

Clifford Moisey

A I'm pretty sure ccpd is a Canon printer driver and it is probably trying to open a network connection so it can check for updates. Allowing it is safe (it was already doing this behind your back anyway, before you enabled the firewall) but you shouldn't normally need the OS X firewall enabled either. Your home broadband router has its own firewall built in and this will almost certainly be more than adequate. You can test this for yourself at grc.com/shieldsup. Run the online diagnostics there, in

particular the 'All Service Ports' test. If all your ports show green in this test without the OS X firewall turned on then your iMac is invisible to the rest of the internet anyway, and there is nothing to be gained by turning the firewall on.

You really only need an extra firewall on your Mac if you're running something that specifically expects additional incoming connections (like a web server) or you are concerned about hacking attacks from within your own home network. If you just want to keep out hackers from the wider internet, the router's firewall is plenty.



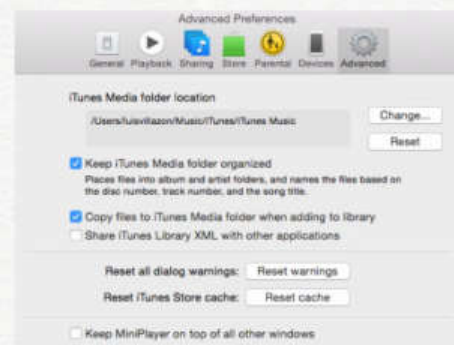
If all ports show green in this test then your router's firewall has a clean bill of health.

I had a backup but it failed

Q My iTunes folder is on an external Thunderbolt hard disk, and my Time Capsule backs up my Mac mini and the iTunes folder. After a power cut, iTunes said that iTunes Library.itl wasn't valid and it had created a new one. It then showed my purchases, available to redownload, but not anything already on the drive, including albums ripped from CDs. Restoring the library file from before the power cut hasn't helped. Can I avoid redownloading everything and just point iTunes to the media already on my drive?

Ray McCarthy

A Before you give up on your backup, I would try restoring the entire iTunes folder in ~/Music. If that doesn't work, try restoring from a week or two further back, just to make sure that there isn't a corrupted file in the backup just prior to the power cut. If that still doesn't work, you definitely don't need to download all your purchases again. You still have them all on your external drive. All that's missing are the entries in the library file. Make sure that iTunes > Preferences > Advanced has 'Copy files to iTunes Media folder when adding to library' unticked, then click File > Add to Library and point to the folders on your external drive.



You can recreate your iTunes library manually by just reimporting the contents of your library folder.

Which backup should I restore?

Q My three-month-old MacBook Pro was stolen recently. My insurance is coughing up for a new one but I'm wondering which is the best way to restore my data. As an avid fan of MacFormat I have 'done the right thing' and kept two backups: Time Machine's hourly backups and a complete disk backup every Sunday night using Carbon Copy Cloner. By 'happy' coincidence, my laptop was stolen on a Monday lunchtime, so both backups are equally up-to-date. Which one should I use when the new MacBook arrives? Are there any advantages either way?

Keith Chancery

A There are, but the differences are fairly minor. If you are restoring to exactly the same hardware, then

Carbon Copy Cloner's image will give you the least trouble. It will be faster and you'll be able to carry on exactly where you left off. But if your new MacBook has a different spec in any way (for example, if you had Yosemite on the old Mac and El Capitan on the new one), then telling the Setup Assistant to restore from the Time Machine backup is likely to work better. It will intelligently migrate your apps and data across, taking into account any differences between the two Macs. If you restored from Carbon Copy Cloner, you'd overwrite El Capitan with Yosemite. You could still upgrade back to El Capitan afterwards of course. This should work fine, but it might be a slightly more tortuous route to take.



Tech Talk

by Luis Villazon



➤ My kids are mostly grown up enough to look after themselves now, but my youngest is 15, so it's still important for him to know whether he is supposed to be with me or his mum on any given weekend. I finally got fed up with all the texting back and forth that this entails and shared my own Google calendar with him.

Theoretically, all he needed to do is sign in to Google, tick the shared calendar there and do the same in Calendar on his iPad. Except that he's 15 and only uses email addresses to buy things on the App Store and sign in to Netflix. His iPad remembers his addresses and

He's 15 and only uses email addresses to buy things and sign in to Netflix

Alternative pixel therapy

Q I have a stuck or dead pixel in the bottom-left quadrant of my iMac's screen. I can't remember when it first appeared, but I've had the iMac for nearly five years. I've read about various cures, such as rubbing the screen with a cloth or a pencil eraser, but that doesn't seem to have helped, and all the software cures seem to be for Windows only. What else could I try?

Matt Feine

A I'm afraid not. These cures are all snake oil. A dead pixel is caused by a failure of the circuitry controlling the polarisation state of the red, green and blue subpixels. This causes all of them to permanently block the light from the backlight. A stuck pixel is the same thing, except that one or more of the subpixels has failed in the opposite polarisation, so that they always let the light through. Both are caused by blown transistors. I have a stuck pixel on one of my monitors that only appears when

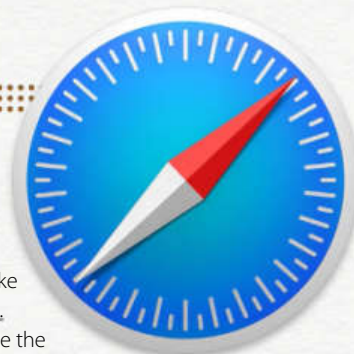
the monitor gets hot, probably because the resistance increases with temperature and pushes a slight defect in the circuitry over some threshold. Some of the myths about dead pixel cures might have started because the time taken to carefully rub the screen allows the circuit to cool down. The only actual cure is to replace the monitor.

The huge number of pixels in modern displays increases the chance of one of them failing. But they are smaller and less obvious.



passwords for him, so he doesn't need to. If he needs to sign in for a new app or service, he just creates a new Gmail account for the purpose and promptly forgets the password for that too. So this two-minute job of adding a shared calendar actually took three days. The forgotten password recovery process for one password, sent an email to another account that he didn't have the password for either and so it went, from one account to the next. This chain eventually terminated in a form that had to be reviewed by a human Google employee to recover his accounts. Maybe in the future we will all authenticate our accounts entirely using iris scans and gait recognition. Until then, kids, no matter how grown up you think you are, please write down your passwords somewhere.

Luis Villazon looks forward to the day when his children fix his computers. Or at least their own.



Does anyone know my secret?

Q Is there a way around private browsing? If I used it yesterday, are the logs of the sites visited deleted when I logged out? Could they be recovered from the Trash with a utility somehow? Or are traces of websites visited really gone for good?

Mark Southon

A Well, the whole point of private browsing of course is that Safari doesn't keep any logs to begin with, so there isn't anything to recover. On your Mac, at least. Some broadband routers may keep records of the sites that are visited if they are configured to do this on their admin page, but server logs can be

tricky to interpret. If you are speaking from the perspective of trying to keep your secrets under wraps, private browsing is normally perfectly adequate. If you need more than that, you can use

By default, most home routers are only configured to keep logs about hacking attempts, but you can change this.



a web proxy like Tor (torproject.org) to disguise the specific sites you visit.

This won't do anything about sites you visited yesterday though, and it does rather signpost the fact that you have something to hide.

If yours is the perspective of the concerned parent, you are much better off simply enabling the parental filtering options provided by your ISP. If you want more control than that, you can use Cisco's OpenDNS (opendns.com/home-internet-security) as your DNS server. Its VIP service costs about £13 a year and will keep detailed enough logs to let you view every website visited from your home.



Can I sync without iCloud?

Q I have a Late 2012 iMac that I use day to day but when travelling I take my 15-inch MacBook Pro. What I want to do is sync documents normally on my iMac with my MacBook Pro so I always have an up-to-date copy of them whether I am home or away. Is there a way of syncing them over a home network, as I don't really want to put my them on a cloud service.

Guy Clarkson

A You can sync files over a home network with GoodSync (\$30 per computer – about £20, goodsync.com) but if you make any changes while you are away from home, that laptop will be out of sync until you get back. If you're concerned about sensitive files in the cloud, password-protect individual files or use tresorit.com, which offers 100GB of encrypted storage for £8 per month. Also, iCloud Drive offers at least 128-bit AES encryption (see <http://apple.co/1Lalihe>).

Am I pushing hard enough?

Q My Dad has given me his MacBook (2,1) to upgrade for him. I pulled two 512MB Hynix modules to insert two 1GB Samsung SODIMMs so he can run Yosemite. How hard should I push the modules? Angle? I can't see enough in there using my iPhone's torch. I move the levers left to release. Moving them right seem to do the insertion, as the panel screws in, but I got a blinking signal, meaning no RAM. I did get 1GB booting perfectly; one slot was shown empty but both were filled. The old modules now give a blinking alert. My focus is putting the boards in hard enough. Each boot attempt produces a mild squeak with a meagre screen flash.

Mike Bird

A That's either the Late 2006 or the Mid 2007 model, which needs DDR2-667, non-ECC RAM modules, also often sold as PC2-5300.

Since 2012, the RAM in MacBooks has been soldered onto the motherboard, so upgrading it isn't an option.

To access the RAM, you remove the battery and undo the three screws holding the metal bracket. The levers on each bay are only for ejecting the modules, by moving them all the way left. Just push the new modules in firmly. The socket is pretty stiff, but when the RAM is in properly it should sit about 1mm in from the chassis's edge. Watch this video to see what I mean: <https://youtu.be/fkrLwqUFsMo>.

If the module is the right way around (with the little notch to the left) it should be straightforward. Sub-millimetre alignment isn't necessary; the module either makes electrical contact with the socket or it doesn't. If it still isn't working, one of the socket's contacts may have been bent or damaged. Fixing it yourself would mean taking the case off completely to be able to see what you are doing.



What's heart got to do with it?

Q I signed up for the free Apple Music trial on my iMac and so far I quite like it. However, I don't understand the 'heart' button. If I click it, I expect to be able to see a list of songs I have previously 'hearted', so I can find the stuff I like. There isn't even a recently played list!

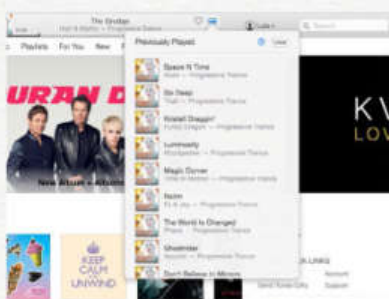
Adam Beeston

A That button tells Apple Music what you like, so that it can refine its suggestions in the 'For You' tab. But I agree, it's ridiculous. I'd much rather have a tab called Favourites than Connect, which I never use. However, there is a history function. clicking the icon in the status area that looks like a bullet-point list shows the Up Next list. Clicking the clock icon there changes the list to Previously Played. There are lots of things I still don't

The history icon in iTunes is hard to find and doesn't work the same way as in iOS's Music app.

like about this. Up Next and Previously Played are, confusingly, sorted in reverse order from one another, and neither shows the current track to help orientate you. But iTunes has always played fast and loose with the rules of good design.

To show a complete list of all your favoured tracks, create a Smart Playlist by choosing File > New > Smart Playlist, then set a single rule that matches tracks where 'Loved' is set to true.



I can't restart my mini!

Q I have a Late 2012 Mac mini which I use as a file server, running the latest version of Yosemite. Whenever it needs to be restarted, either manually or due to a software update, it proceeds normally to the startup chime, and then I just get a grey screen. Waiting for a few hours made no difference.

I added an SSD as an external boot disk, which afforded me the opportunity to reinstall OS X. However, after once completing a 'normal restart', the problem returned. The only workaround I have is to hold the power button to force a shutdown when I have the grey screen and then power up again. Could this be a hardware problem?

James Hale

held down. This will boot into the hardware diagnostic mode to run some basic tests on your RAM, disk and motherboard. If that comes up clean, try booting in Safe Mode by holding **⇧**. If this boots, it indicates to you that the fault is in some driver or kernel extension. You can find out which one by booting yet again, but this time in Verbose mode by holding **⇧+V**. This will dump a message on the screen for each step in the boot process, and the last one you see before it locks up is the one responsible for the trouble. Hopefully you can use this information to roll back an update or uninstall something to get your Mac mini back on track.

Booting in diagnostic mode is an easy way to check your Mac's basic functions are okay.

A Probably not, but there's an easy way to check. Do a forced shutdown and restart with **⌘**



Self Service

Speed up Finder

Streamline your file management with these handy shortcuts. How many of these are new to you?

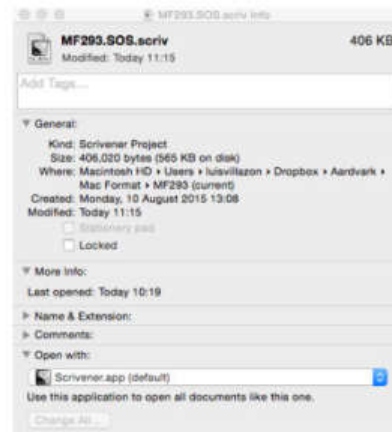
1 Change to icon, list, column or Cover Flow view instantly using **⌘+1**, **⌘+2**, **⌘+3** and **⌘+4**, respectively.

2 In icon view, you can jump into the selected folder with **⌘+⌵**, while **⌘+⌴** takes you to the parent folder. **⌘+[** (left square bracket) jumps back through the history of folders you've visited, like your web browser's back button and **⌘+]** jumps forward again.

3 In column view, double-clicking a column divider will automatically resize the column to the left of the divider, so that it is exactly wide enough for the longest file name in that folder.

4 **⌘+I** opens one Get Info window each for whatever files and folders are selected. Pressing **⌘+⌘+I** instead opens an Inspector that summarises the entire selection, and it updates as you add to or remove from the selection.

5 **⌘+C** copies a file to the Clipboard and **⌘+V** pastes that copy at the current location. But **⌘+⌘+V** also deletes the original file, effectively moving the file to a new location.



Use Finder's Inspector rather than the Get Info window to summarise multiple files and folders.

GET IN TOUCH

If you have a technical query with your iOS device that you need answering, please email us at sos@macformat.com

iOSSOS

Christian Hall fixes your iPad and iPhone problems



Feeling the crunch



Q My iPhone 5 shows 230MB free out of 5GB. What is the best way to free up space?

Clare Russell

A Social networking apps aren't generally very large, but they can cache quite a lot of data, which builds up over time. So, deleting and reinstalling Twitter and Facebook might free up a few hundred megabytes.

You'll likely save more by moving photos off the phone. Even if you don't want to use iCloud Photo Library, importing images to Photos on your Mac and deleting the originals from your iPhone will likely free up a few gigabytes. To confirm what's using space, go to Settings > General > Storage & iCloud Usage (or Usage, prior to iOS 9).

What's up with Apple Music?

Q I signed up for the Apple Music trial on my iPad, but I think it's broken somehow. I can stream music, but whenever I try adding an album to My Music, it acts like it worked, but the album never appears in my library. It just disappears!

I have tried this on lots of different albums but it doesn't seem to make any difference. I don't have a Mac, so my iPad isn't synced to another device. Can I reset things without risking losing stuff or taking forever to redownload everything?

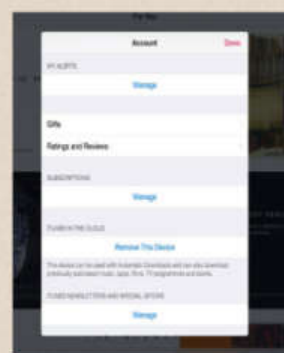
Noah Saoirse

A Incomplete or inaccurate library data has been a recurring feature of Apple Music since its launch. The 8.4.1 update to iOS in August fixed some of these problems and by the time you read this, iOS 9 will be out, which may fix some more. But if your problem is

still there, start by turning off iCloud Music Library in Settings > Music. This will dump all the albums from Apple Music on your iPad (whether they were downloaded or just added to My Music).

Next, turn iCloud Music Library back on and they should download again.

This involves some redownloading, but it's not as bad as doing a full factory reset and downloading all your apps and data as well, which is probably your only other option. In the meantime, if Apple Music isn't satisfactory, think about turning off automatic subscription renewal until more bugs are squashed.



Manage auto-renewal in Settings > App and iTunes Stores > Apple ID > View Apple ID.

Which Pro do I need?

Q I've been in the market for a new MacBook Pro for some time but I am back to square one after the announcement of the iPad Pro! I use my MacBook for part-time degree work, the web, music and games. The iPad Pro's portability is tempting, but would it do everything I need? Will OpenOffice run on it? Does it have mouse support?

Amanda Shawe

A You can't use a mouse with any of the iPads because they are designed for touch input only. There are styluses

available – Apple has designed its own just for the iPad Pro – but no mice. Using the iPad Pro mainly with the keyboard accessory, so it is propped up, it's less convenient to select and tap things than when using a mouse.

On the other hand, touch input makes freehand drawing and handwriting possible, so you can use the iPad Pro to take notes in lectures. OpenOffice itself isn't available for iOS but there are plenty of other word-processing apps, including Word (with a subscription) Google Docs and Pages. UK pricing for the iPad Pro isn't yet confirmed, but in the US it's around the same price as the entry-level MacBook Air.

Rain damaged my phone

Q My iPhone got damaged after being left outside in the garden during an overnight storm. Its screen is totally black now. Can I at least recover photos?

Gary Smith

A The prognosis depends a lot on how badly it got soaked. First to go is usually the battery, shorting out when its contacts are immersed in water. This doesn't necessarily kill the whole phone. After a week in an airing cupboard, with its back off, connect the iPhone to your Mac over USB; OS X's Image Capture app may be able to import your photos.

MACS OF THE FUTURE

Words: Gary Marshall Illustration: Magictorch

Will your next Mac have an 8K display and Intel inside – or will it have more in common with an iPhone than a Mac mini? We discover the trends that'll shape the next wave of Macs

Tim Cook is many things, but a loose-lipped blabbermouth isn't one of them. So when he told an interviewer in September that "some people will never buy a computer, because I think now we're at the point where the iPad does what some people want to do with their PCs", Apple observers were quick to read the technological tea leaves. They looked again at the keynote video where Apple raved about the iPad Pro's "desktop class" performance. They cited John Gruber, aka Daring Fireball, whose benchmarks discovered that the iPhone 6s had faster single-core performance than the new MacBook. They came to the obvious conclusion: the Mac is dead.

We beg to differ.

Yes, the lines between the latest iPads, the iPad Pro and the new MacBook may be blurry – but the Mac's in great shape.

That's because Apple is building a family.

It's a family where Macs and mobiles coexist, and where technology from one side of the family is shared and improved upon by the other before being used by everybody. Just think of the technologies and achievements that appeared in iPhones and iPads before moving into Macs, such as all-day battery life, fast flash storage, pin-sharp Retina displays... even the idea of giving away Apple operating systems for free started with iOS.

But it's not a one-way street, however. The Force Touch technology we first saw in this year's MacBooks now adds an extra layer of interaction to iOS. New processors unlock interesting possibilities, little accessories could have a huge effect on the way we interact with our Macs, and new technical standards could transform the way we communicate and even power our devices. Over the next few pages we'll discover what's on the horizon and how it'll shape the future of your next Mac.

The next iMac?

We dust off our crystal ball and gaze into the future of Apple's flagship computer – the iMac. Will it get Intel's Skylake architecture? Will we see the return of the anglepoise design? Let's find out...

The iMac has a special place in Apple fans' – and we're sure, Apple executives' – hearts: the candy-coloured iMac G3 was the computer that brought Apple back from the brink of disaster. It looked like nothing on earth until everything on earth copied it, and its subsequent iterations would continue to redefine how a desktop computer should look. The current, incredibly slim iMac is probably the most beautiful, but we have a soft spot for the anglepoise iMac G4. If Jonathan Ive fancies revisiting that one with the next generation of the iMac, we'd be at the front of the queue to buy one!

Storage dilemma

The iMac has taken some giant steps recently. It ditched the SuperDrive in 2012, and it gained the extraordinarily pretty – and for imaging pros, extraordinarily useful – 5K display in 2014. However, there are two clear weaknesses with the current line, 5K iMac aside: the lack of Retina displays and the fudge that is the Fusion Drive.

Retina displays are coming – the El Capitan beta contained references to a 4K, 21.5-inch iMac and an image that shows it isn't going back to the anglepoise just yet – but the Fusion Drive should be here for a while still: solid-state storage is still significantly more expensive per gigabyte than traditional hard disks. Apple is currently charging around £200 for every 256GB of flash storage – so giving an iMac 1TB of flash storage would cost an extra £800. That's four times the price of the Fusion Drive, which uses its 128GB of flash storage to speed up OS X and your most commonly used apps. It's not as fast

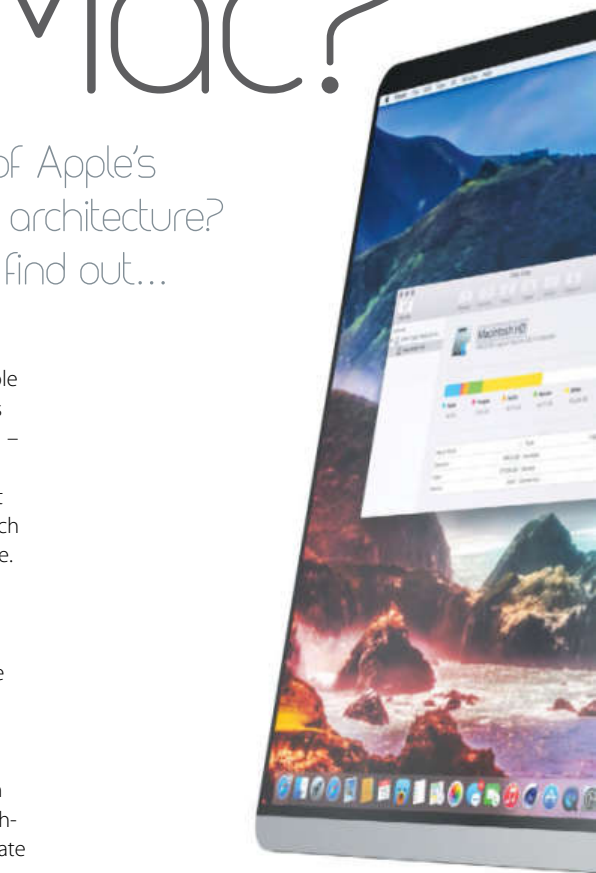
as a pure SSD, but until flash memory prices come down significantly, it'll remain the sensible option for anybody who needs lots of space as well as lots of speed. However, when prices fall – or when our ongoing embrace of streaming and cloud storage means that 1TB drives aren't needed by most purchasers – the iMac will ditch the hard disk as happily as it did the SuperDrive.

Skylake generation

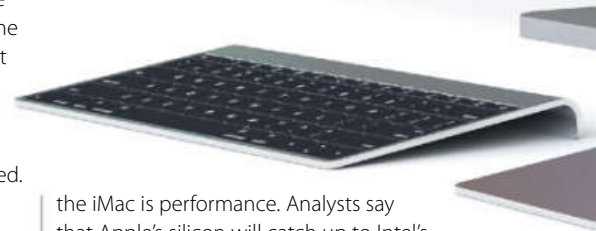
The iMac's processors tend to be picked from the top rung of Intel's consumer range, but the current models are desperately overdue replacement: Their Core i5/i7 processors use Intel's ageing fourth-generation 'Haswell' architecture, which Apple has had to stick with due to serious delays in the introduction of fifth-generation Broadwell processors. A minor update may bring Broadwell to the iMac – code in El Capitan suggests that the 4K iMac will have Intel Iris Pro 6200 graphics, which are part of that architecture – but it's the sixth-generation chips we really want to see: the S-series Skylake processors are significantly faster and significantly more energy efficient than their fourth- and fifth-generation predecessors, have significantly improved integrated graphics in the form of Intel HD Graphics 530, and can support wireless charging – although as we explain in iSpy on page 114, the iMac's role in any Apple wireless system is likely to be as the charger, rather than as the device being charged. The powerful Skylake processors also support faster DDR4 RAM and USB-C, the new high-speed USB connector we've already seen in this year's 12-inch MacBook.

In the very long term it's possible that Apple will switch to its own processors as it once moved from PowerPC to Intel – reports suggest it's currently working on a 10nm, six-core A10 processor that makes current mobile processors look like they're powered by steam, and of course in many respects the iMac is a mobile computer that just doesn't go anywhere – but a key feature of

Reports suggest Apple's working on a 10nm, six-core A10 processor that makes current processors look like they're powered by steam



Could a super-widescreen iMac and future OS X support triple Split View and enable you to turn the display in almost any direction?



the iMac is performance. Analysts say that Apple's silicon will catch up to Intel's Atom and Core i3 within the next year or so, but that's still a long way behind a Haswell Core i5 processor, let alone a Skylake i7 one. The Broadwell delays have doubtlessly reinforced Apple's desire to control its own processor technology, but there's still plenty of work to do before iMacs no longer need to have Intel inside.

In September, LG apparently accidentally outed a new iMac with a sharper screen: not a 4K iMac, or a 5K one, but an 8K one. That's a screen with a whopping 7,680 x 4,320 resolution, delivering 33 megapixels, and according to LG, "Apple has announced that they will release the 'iMac 8K' with a super-high-resolution display

What's next for OS X?

Apple's move to Californian place names occurred as it was running out of cats to name OS X after, and El Capitan has no shortage of possible successors: OS X Mojave, perhaps, Big Sur, Sequoia, or Tahoe. Siri will make its Mac debut in one of them, alongside further refinements of Split View (we want triple-split already), Handoff and Continuity. One tantalising prospect is MacID-style automatic unlocking and login (<http://macid.co>) with your fingerprint on an iOS device, or simply the presence of your Apple Watch. Reliable Wi-Fi would be nice too.

Some pundits believe that iOS and OS X will become a single OS, but Apple has poured cold water on the idea: it wants to blur the lines between the operating systems to enable seamless transitions from one to the other, but as Windows 8 demonstrated, making a single OS for both mobile and traditional devices isn't necessarily a great idea.

That doesn't mean OS X won't come to ARM processors, however. When – and we think it's a case of when, not if – future MacBooks run on Apple's own silicon rather than Intel chips, OS X will need to run on those Macs. To quote a certain Steve Jobs from 2005: "We've had teams doing the 'just in case' scenario. And our rules have been that our designs for OS X must be processor independent... this has been going on for the last five years." If Apple doesn't already have ARM-based Macs running OS X, we'll eat an iPad.

The rugged coastline of Big Sur has been touted as a possible successor to Mavericks, Yosemite and El Capitan.

vertically for keyboard and mouse use but that folds down for touch input and control. It's something that could certainly work, but the existence of the iPad Pro and its subsequent iterations is likely to address the relatively small number of customers who need a big Apple device with a touchscreen and Apple Pencil.

When it comes to inputs for iMacs we're more likely to see revised Apple Keyboards, Magic Trackpads and Magic Mice, along with the much-rumoured arrival of Siri in OS X, but if the iMac itself keeps on slimming down then there's no reason why the display shouldn't be movable horizontally as well as vertically.

In terms of the iMac's appearance we don't think it's going to change much: Jony Ive's ongoing mission to make devices almost invisible beyond their screens means the big screen/thin case approach is likely to continue, albeit with shrinking bezels and quite probably the same Space Grey, Silver and Gold options we've already seen in the MacBook. The iMac started off as Apple's colourful Mac; maybe it's time for it to take that role again.

later this year". Apple has announced no such thing, of

course, but as LG makes the display for the current 5K iMac perhaps we shouldn't be too quick to dismiss this one. It's certainly possible: the latest embedded DisplayPort standard supports 8K displays, although we're not sure we could tell the difference between a 5K 27-inch screen and an 8K one.

On the turn

We mentioned the anglepoise iMac earlier, and we weren't just being nostalgic: Apple has filed a number of patents that suggest it has at least considered an iMac-style computer that sits



The next MacBook Pro?

Apple made some incredible design changes to its new MacBook, but will they and other tech developments pave the way for a new kind of pro notebook from Cupertino?

MacBook Pro: will hell freeze over again? One of the more interesting predictions about the mobile Macs of the future is that they'll be powered by Apple processors, not Intel ones: after all, the Apple-powered iPhone 6s is faster than the Intel Core M processor in the new MacBook in single-core benchmarks, and analysts agree that Apple is making significant progress with each new generation. As we've already discussed, surely it's just a matter of time before Apple switches to its own silicon.

Apple Core

As you might expect, it's a bit more complex than that – especially in the MacBook Pro, where performance is everything. While an Apple-powered MacBook looks like a case of “when” rather than “if”, expect the MacBook Pro to stick with Intel for the foreseeable future.

The current MacBook Pro range is built around two Intel processor families: the more affordable models use a dual-core Intel Core i5 running at 2.7 to 3.1GHz, and the top models have quad-core Intel Core i7s running at 2.2 to 2.8GHz. Those processors are from the Broadwell and Crystalwell/Broadwell architectures respectively, and while there may be another Broadwell-based minor spec bump in the short term, the

MacBook Pro's next major upgrade will be to Intel's Skylake family. That's the sixth-generation of the Core iX processor; Broadwell was the fifth.

There are two flavours of Skylake suitable for MacBooks: the U series and the H series (the even more powerful S Series Skylake processors are designed for desktops). The U series is likely to appear in the smaller MacBook Pros and include Iris 550 graphics, the newer version of Intel's Iris 6100 graphics processor, while the higher performance H series is likely to power the 2016 15-inch MacBook Pro.

Skylake isn't just about more performance, although of course that's part of the appeal: the new processors should be around 20% faster and 30% more energy efficient than before. They also support a wide range of technologies including fast DDR4 memory, wireless charging and 40Gbps Thunderbolt 3 via USB-C. Skylake is currently a 14nm architecture, but in 2017 it'll transition to 10nm for better energy efficiency.

Thinner and thinner

We know what to expect inside the MacBook Pro, but what about the outside? The MacBook's combination of USB-C and a thinner, lighter case in a range of colour options is likely to make its way to the Pro models, albeit without the MacBook's sacrifice of multiple ports in the pursuit of razor thinness:

we'd expect multiple USB-C ports, not just one, possibly at the expense of one of the existing Thunderbolt ports.

The rise of USB-C means that while Thunderbolt compatibility won't be removed completely in the short term – the howls of angry Mac owners who've paid for pricey Thunderbolt peripherals would be heard

around the world – it's likely to be deprecated in much the same way that Apple slowly removed FireWire in favour of Thunderbolt, especially since it'll be possible to connect Thunderbolt 3 devices to a USB-C port. USB-C is doing to the Mac's Thunderbolt ports what Thunderbolt did to the FireWire ones.

As far as the MacBook's display goes, the non-Retina MacBook Pro is clearly living on borrowed time – but the prospect of a 5K MacBook Pro at the other end of the line-up looks rather unlikely. The current compromise, where the Retina

MacBook Pro can drive a 5K display, is a perfectly sensible solution, and the arrival of Skylake processors with built-in DisplayPort 1.3 support means Apple will no longer have to use its own custom solution to drive external 5K displays.

There's another relevant standard here: Embedded DisplayPort 1.4a, which allows for 8K displays on desktops and for thinner, more energy-efficient panels in notebooks. You can imagine Jony Ive's delight at the thought of ever-thinner components, and we'd also expect the MacBook Pro's bezel to start shrinking too until the display appears to run from edge to edge.

The MacBook's butterfly keyboard mechanism is likely to cross over to the Pro line, but with some changes: the one in the current 12-inch

Skylake isn't just about more performance: the new processors should be around 20% faster and 30% more energy efficient than before





The future of Apple's accessories

The next Magic Mouse, Apple Keyboard and Magic Trackpad may be announced as you're reading this: leaked documents from the US FCC regulatory body have already shared their secrets. The Bluetooth version has been improved from 2.1 to Bluetooth LE 4.2 for better battery life, and the keyboard and mouse appear to have sealed, rechargeable lithium batteries instead of the AA cells we're used to using. We really hope the keyboard is backlit too.

Apple may charge those devices wirelessly using loosely coupled resonant charging, which can transmit power without requiring any device to touch the charger. That charger could be in an iMac. In the shorter term, Force Touch is likely to make an appearance on the Magic Trackpad and possibly in the Magic Mouse too. A future Magic Trackpad might also support Apple's new Pencil.

Future backup

Apple's fifth-generation Time Capsule (and its sibling, the AirPort Extreme) is a clever device with support for every Wi-Fi standard up to 802.11ac, but there's still room for improvement: its USB 2.0 port is dreadfully slow compared to USB 3.0, and the potential of 802.11ad for high speed streaming of content such as uncompressed 4K video is obviously attractive. Don't expect an SSD version any time soon, however: the Time Capsule is all about the terabytes, and for the foreseeable future those terabytes will be hard drives.

Some of the most interesting ideas are buried in Apple's many patents, which include keyboards with integrated displays – so you could transform the key labels based on what you're doing or what language you're using – and haptic feedback, devices that charge themselves via solar or wireless charging, and a 'fusion keyboard' with touch-sensitive keys that work as a touchpad as well as a traditional keyboard, and with Force Touch in every single key. Just because Apple patents something doesn't mean it will make it, of course, but it does show that the company continues to think different in surprising and delighting us.

A near edge-to-edge display and USB-C could be on a new MacBook Pro range as early as next year.

points. Recognising this, chipset firm Qualcomm is pushing tri-band chipsets for routers that would offer 60GHz 802.11ad plus 5GHz 802.11ac, as well as 2.4GHz to enable backwards compatibility with older Wi-Fi devices. With speeds of 7Gbps, 802.11ad could help deliver that cable-free future we've been hearing about for so long.

Wireless wonders

On the subject of wireless charging, does Skylake mean wirelessly charging MacBook Pros? We suspect the short answer is "no": as we've discovered in our iSpy investigation later in this issue, while Apple is very interested in wireless charging there are a few obstacles that it needs to overcome first. A wirelessly charging, 802.11ad WiGig MacBook Pro would be thin enough to shave with, but don't expect to see it in the short term. What's more likely is more of the battery magic we've seen in the new MacBook, where the logic board is a tiny island in a sea of cleverly shaped batteries: the more ports and moving parts Apple can remove, the more svelte the MacBook Pro can become without losing that all-important battery life.

MacBook is rather cramped compared to the keyboard in the 15-inch MacBook Pro, so we'd expect Apple to take advantage of the larger canvas to make the butterfly spread its wings a little more widely. And while MacBook Pros already have Force Touch, we think a larger trackpad is coming, possibly in conjunction with the Apple Pencil we've already seen on the iPad Pro. As we've learnt from the clever Inklet app, a Force Touch trackpad can deliver pretty good stylus support – and as we've seen in the Apple Pencil, Apple makes a pretty good stylus.

The most recent MacBook Pros have 802.11ac wireless networking, but there's a new standard heading our way: 60GHz 802.11ad, or WiGig. This is faster than current standards but much more prone to interference and obstruction, so it's best suited to short-range, intensive data transmission such as local, uncompressed 4K video streaming rather than, say, public access

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RATED



“Forget the debacle that was the iPad mini 3, this time Apple has got it right. From robust internals to fantastic iOS 9 features, this is a worthy upgrade”

iPad mini 4 *p86*



REVIEW MANIFESTO

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- ★★★★★ Rarely given; a brilliant thing that's as good as you can get in its class right now
- ★★★★☆ A strong recommendation to buy; any concerns are comfortably outweighed by its strengths
- ★★★☆☆ A good product you should consider buying, but there may be better options for you
- ★★☆☆☆ Fundamentally flawed either in concept or execution; there are almost certainly better options for you
- ★☆☆☆☆ A waste of your money and everyone's time; do not buy!



Given solely at the discretion of the Editor only to truly exceptional products.



Our group test winner gets this award; it's the best of its kind at the time of writing.

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iPhone 6s



Apple packs in some amazing new tech into a slightly heftier iPhone 6

★★★★★

From £539 SIM-free, from free on contract Manufacturer Apple, apple.com/uk

Capacity 16GB, 64GB, 128GB **Dimensions** 138.3x67.1x7.1mm **Weight** 143g

➤ The headline features of the iPhone 6s all sounded great at its September launch, but it's not until you spend a few weeks with it that you appreciate it's not just a new and improved iPhone – you quickly become an improved user too. Not only are 3D Touch's new interactions (essentially the same as Force Touch from the Apple Watch) and new camera good upgrades, they make you think more about how you use your iPhone and for what. The device's housing might not look any different, but there's a whole new world to explore here.

Invisible Touch

Force Touch on the Apple Watch gave us an extra layer of usability. Pressing deeply to reveal hidden options was ideally suited to the Watch. With such a tiny screen, where you don't want to be scrolling much, this solved a pretty serious limitation for smartwatch interfaces. But with the generous screen size of an iPhone, does it have the same effect? The simple answer is yes, but

with one caveat; it's actually many times better, and perfect if you want to hold your iPhone with one hand.

The reason for this is that the 3D Touch menus that pop up as you press deeply into the screen do so in relation to where your apps are – so that apps near the top of the screen show options below the app icon, and apps at the bottom show options above them. When you rearrange icons from the left to the right of the screen, the icons that accompany the listed options will also swap sides appropriately. 3D Touch enables you get at stuff faster from the Home screen. Many of Apple's apps, and an increasing number of third-party apps, offer shortcuts to commonly used actions when you press hard. It's basically right-clicking to open contextual menus, but for your iPhone.

Most of the time the options are just right, and we particularly like those for the Camera app (Take Selfie, Record Video, Record Slo-mo and Take Photo) and the option to redeem a code for the App Store in



Our thanks to Three for supplying the iPhone 6s and 6s Plus for review. To see deals and tariffs, go to three.co.uk. Three – rated the UK's most reliable network by YouGov.

The rounded-edge design is the same as the previous model, but it's a fraction thicker.

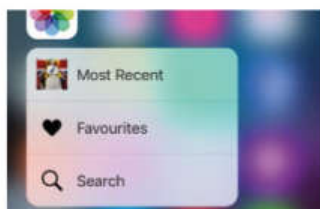
its app – normally buried right at the bottom of its Featured page. There are some odd omissions though; there's no shortcut to create a new voice memo, or to see the forecast for your top locations in the Weather app. Those and other Apple apps

have no options at all, which feels odd when 3D Touch is a headline feature. However, these are minor omissions; the core features for everyday users – Camera, Mail, Calendar, Notes, Reminders and the App Store – are catered for, and truly enhanced by these shortcuts.

The pride and joy of the iPhone's new 3D Touch abilities are the 'peek' and 'pop' gestures. They take the Mail app from being a good email app experience to an unrivalled one. Once you've tried them for just one day, you'll never want to be without them – they feel so natural.

3D Touch's contextual menus are very good for one-handed use, but Reachability (double-tapping the Home button to slide the screen down and bring stuff at the top into reach), isn't enhanced by the 6s's new interactions. In fact, it's largely forgotten, and if Apple extends the philosophy behind peek and pop to many other parts of the OS, it will quickly negate what Reachability

TOP 3 FEATURES | OF THE iPhone 6s



1 3D Touch

An entirely new way to interact with your iPhone. Much the same as the Apple Watch's Force Touch (haptic feedback in response to firm presses), it gives you shortcuts to features and is convenient for one-handed use.



2 Second-gen Touch ID

Introduced with the iPhone 5s in 2013, Touch ID is Apple's biometric fingerprint authentication tech. The Home button now unlocks your iPhone and authorises your iTunes and App Store purchases much faster.



3 12MP/4K camera

The 6s takes a big leap in photo and video capture. 4K recording gives you a huge level of detail, but you need support for it in your computer or living room to get the best use of it, and file sizes can quickly balloon.

The iPhone 6s and iOS 9 are the perfect pairing. It won't make your iPhone 6 feel old, but you'll certainly want one!

was trying to achieve. That's a good thing, as it always seemed like a clunky and apologetic solution to one-handed use.

Snap happy

The 6s again raises the bar when it comes to iPhone cameras. Photo and video capabilities are often top of user requirements, and iPhones have rarely been at the cutting edge of those developments; 16MP or higher resolution sensors are seen in many rival smartphones. The 6s's 12-megapixel sensor might not be the best resolution in a mobile phone camera, but the quality of photos isn't derived from a single hardware attribute – lens quality and software also come into play.

The new sensor takes great photos, but then so did the eight-megapixel one in the iPhone 6. So how different are its results? As well as the sensor, Apple has changed the processing as well. Side by side with an iPhone 6 we saw significant noise reduction and greater sharpening. High-contrast detail has an extra punch to it, but colours can look a little saturated, as if they've already been run through a photo filter app.

Low light performance is significantly improved, and though it's hard for a smartphone to rival a good DSLR, we captured sharp images with the f/2.2 aperture in fairly dark indoor environments.

Unique to both new iPhones is the Live Photo option. This captures a regular still image along with 1.5 seconds of movement before and after you tap the shutter release. Sadly, these are shot at just 15 frames per second and they look poor if you move the camera during their capture. When you open one in the Photos app and press hard on it,

the still image comes to life. We quickly tired of this feature, and often wished we had just taken a regular video instead.

To 4K or not 4K?

Taking your home movies beyond 1080p quality is another big new feature. If you have a suitable display (a 4K TV or monitor, or a 5K iMac) then using 4K video recording as your default will serve you well into the future, but most people are still unlikely to benefit significantly from it, as we generally post to sites that compress video or play things back on small screens. File sizes quickly grow too – a major concern for the 16GB model, which has just 12.2GB

the iPhone 6's A8 processor and pips the iPad Air 2's A8X too. We never found the iPhone 6 struggled with, well, anything really, but the introduction of 4K video recording and editing in the iMovie app necessitate an extra boost, and the 6s is a very capable computer for this task.

Elsewhere, Touch ID has been vastly improved with much speedier recognition, and the front-facing camera for selfies and FaceTime

Side by side with iPhone 6 we found significant noise reduction and greater sharpening with the new 12MP camera

of usable space out of the box! Even so, shooting in 4K for editing at 1080p gives you the advantage of being able to crop into part of a video without upscaling.

A refined experience

Other components have also been given a significant update, even if they haven't been highlighted as major reasons to get this new iPhone. The A9 and M9 processors and 2GB of RAM means this model scales new performance heights.

In GeekBench's tests we busted past 4450 almost every time we ran the multi-core test. This breezes past

finally gets a big upgrade in the form of a 5MP camera (up from a paltry 1.2MP) and a Retina Flash, which uses the screen to light you.

'S' models of iPhone always make decent upgrades but this is the first time we've leant towards saying it's an essential one. Most people might not be able to harness all the power inside just yet, but the new tech here is astounding, and 3D Touch interactions soon become essential. We've got no qualms in saying this is an important step change for the iPhone. It's an incredible device, but avoid the 16GB model if 4K video is a big deal for you. **Christian Hall**

TEAM TALK



3D Touch is the most exciting thing to happen to iOS in years – maybe even since the original iPhone. However, it's still early days, with many developers just implementing simple interactions so far. If you're in the middle of a contract with your current iPhone, you'll be aching to benefit from their hard work with 3D Touch in a year's time.



The best 'S' model ever, and the best iPhone ever!

3D Touch feels like second nature and perfect for iOS 9.

- Brilliant 3D Touch actions
- Stunning new camera abilities
- Faster Touch ID recognition
- Oddly top heavy



The new iPhone is super-slim, even though it's actually thicker than the previous model. It's such a small difference though that it will fit in most iPhone 6 cases perfectly.

iPhone 6s Plus

Will this update to Apple's fulsome phone prove that bigger is better?

★★★★★

From £619 SIM-free, from free on contract Manufacturer Apple, apple.com/uk

Capacity 16GB, 64GB, 128GB **Dimensions** 158.2x77.9x7.3mm **Weight** 192g

Yes, the plus-size iPhone is still huge. Really big. If you tried the 6 Plus last year and found it simply too large for how you like to use a phone (or for your pockets, which is honestly a potential problem), then you can probably stop reading this review here. In fact, the 6s Plus is a tiny bit thicker than its predecessor, and 20 grams heavier – but if you're someone who prefers what the biggest iPhone and its 5.5-inch, 1920x1080-pixel display offers, the 6s Plus has some very nice tricks up its sizeable sleeve.

The fanciest new addition is, of course, 3D Touch. Just like on the iPhone 6s, it takes a bit of getting used to – it's a way of interacting we just haven't had on our phones before, and have only had on anything else for six months – but it's often fantastically useful when you do remember to use it. The Peek action is especially useful on the 6s Plus.

In the old days, if you opened a link then wanted to go back, you had to work to reach the top of the screen (or invoke Reachability), or stretch across the phone's considerable width to swipe back. Now, you don't even need to open the link in the first place. Just press lightly, see the picture, website, calendar entry or whatever, then let go.

As with the 6s, 3D Touch makes one-handed use much more viable. That said, it's often not easy to activate the multitasking 3D Touch gesture (where you press hard on the left edge of the screen and swipe to the right) on the Plus with one hand – between the distance you need to reach and keeping the phone balanced, we just couldn't do it reliably.

Also, while we alluded to it at the start, it's worth talking about what the huge 5.5-inch screen on the 6s Plus gives you that even the 6s's 4.7-inch one doesn't. It's Apple's highest-density screen, which makes it astonishingly detailed.

It's a Full HD display, so videos look beautiful on it. But the extra size isn't just for the sake of being bigger – turn it to landscape and many apps end up looking like their iPad equivalents, adding things like extra scrolling panes, so you can have your email inbox next to the currently open message. The keyboard is more comprehensive too. It all combines to mean you can



That extra bit of weight and thickness means the 6s Plus is the biggest iPhone yet.

actually be more productive on the 6s Plus than with smaller iPhones (to some degree, at least). It sits somewhere between iPhone and iPad, and while some people will be happier keeping those concepts separate, for others it's absolutely the Goldilocks device.

Better battery?

One of the biggest reasons to pick up an iPhone 6 Plus last year was that it offered significantly better battery life than the regular iPhone 6. It was easily the difference between running out before the end of a day of heavy use and still having some juice to spare. But, while you might hope the 6s Plus being slightly thicker than its predecessor means Apple has accommodated even more battery space, it actually has a slightly smaller and lower capacity battery. Energy savings elsewhere mean that it still gets the same kind of battery life as last year's model, and it still beats out the smaller 6s –

but sadly there's no marked improvement in longevity. Still, that means it remains the joint-best option for iPhone battery life, and you can eke even more out of it with iOS 9's Low Power Mode.

It's also, of course, Apple's joint-most-powerful iPhone along with the 6s, packing in an astonishingly powerful A9 processor. Every year, we find it hard to imagine Apple could add any noticeable speed to the iPhone, yet every year it does. Apps launch faster than ever, and moving about the system is extremely snappy.

The upgrade to 2GB of RAM is important as well, because it means things like Safari tabs don't need to be reloaded as often (a real bugbear of ours in the past), and apps and games are more likely to be able to pick up in the exact spot you left them. Even the most demanding games run fantastically well, naturally. And, if you are going for more complex tasks in professional



QUICK LOOK | iPhone 6s PLUS**1 New camera**

The 6s Plus's new 12-megapixel camera can take 4K video too. It's full of advanced tech to keep pictures crisp, clear and colourful.

2 3D Touch

The iPhone's screen detects pressure, allowing you to trigger shortcuts and to peek into content such as messages and web links, or to draw at different thicknesses

3 A9 chip

Apple's new A9 processor is astonishingly fast, and comes with the M9 motion-sensing co-processor to detect your movements.

4 Second-gen Touch ID

Apple's next-generation version of Touch ID works the same as before, except *much* faster – in fact, it's pretty much instant.

5 Tougher shell

The new case is made of stronger aluminium, while the glass screen is made using a new dual ion-exchange process for greater strength.

apps, it handles those deftly too – from fast photo editing in Pixelmator to swiftly editing 4K video in iMovie.

Video star

Like the iPhone 6s, the 6s Plus is capable of capturing 4K video – at a

using miniscule electromagnetic motors around its edge.

The result is handheld video that's almost completely without the telltale wobbles and twitches that normally mar it. Indeed, it's almost eerie at times – but it looks

However, if you're planning to make your final video 1080p, recording in 4K is still useful because it means you can zoom in by up to 2x when editing without actually losing any detail – a first for the iPhone.

The image stabiliser works for low-light stills too, and really does help to get slightly sharper, brighter shots indoors. If you're especially keen on iPhone photography and video, this should tip you over into considering the Plus over the regular 6s (but be sure to get the 64GB model at least).

So, with that advantage, is this the better of the two new models?

They're equally good, just different – the bonus of the better battery life and OIS comes with a significant increase in size and weight. If you prefer a phone that's thinner, lighter and more pocketable, go with the 6s. For longevity, the best possible camera, or just the larger screen, and if you don't mind the heft, you'll be delighted with what the 6s Plus has to offer. **Matt Bolton**

The 2GB of RAM upgrade is important as well, because it means things like Safari tabs don't need to reload as often

whopping resolution of 3840x2160 pixels. However, the 6s Plus has a bonus over the 6s. Just like last year's models, only the Plus features an optical image stabiliser (OIS) for the camera – but in the 6 Plus it was only used for still images in low light. Now, it's used for videos too, and the difference is glorious. It works by sensing your hand's involuntary motions using the M9 co-processor, and then making tiny compensatory movements to the camera sensor

wonderfully clean and professional without any effort on your part.

We haven't even talked about the overall video quality yet, which is fantastic – crisp, clear, bright and colourful. Quite simply, you could use the iPhone 6s Plus for some professional video work, and no one would know the difference. The 4K option is great, but admittedly limited in practical use right now – YouTube is the only export option that actually keeps the 4K resolution.

TEAM TALK

I love my iPhone 6 Plus, but even so the 6s Plus has given me serious pause for thought. Though I've only had the 6 Plus for a year, upgrading to the latest and greatest is going to be very hard to resist!



If you can deal with its size and weight, the 6s Plus has Apple's best ever camera, and great battery life.

- + Fantastic camera and OIS
- + Big screen useful for working
- + Better battery life than 6s
- Still just too large for some

iPad mini 4

iOS 9 helps make the little iPad big news once again



From £319 Manufacturer Apple, apple.com/uk

Storage 16GB, 64GB, 128GB **Connectivity** Wi-Fi only or Wi-Fi + Cellular **Weight** 298.8g (304g, Wi-Fi + Cellular model)

➤ We slated the iPad mini 3 last year for being a weak upgrade to the Retina iPad mini 2. Its addition of Touch ID only wouldn't have been such a blow if it wasn't for the iPad Air 2 getting an all-round upgrade. The original Air and iPad mini 2 were identical apart from form factor, so the mini 3 felt like a backwards step while the Air 2 leapt forward. Apple has corrected the line-up now, giving us the mini we wanted last year, but actually at a time that's more suitable now.

Why? It's all to do with iOS 9. Having the iPad Air 2 as the only iOS device capable of using the new system's Split View and

Picture in Picture modes (it'll be joined by the iPad Pro in November) just didn't make sense. The mini is very popular and those new iOS 9 features are big updates that iPad users will really want to use. The new mini has similar guts to the iPad Air 2 (and some cosmetic changes we discuss later on) and it shows off iOS 9 in all its glory. This is one very fast iPad, and even though the tech is a year old, it took serious engineering to rework it to fit in this diminutive housing.

Impossibly thin

In minor generational upgrades Apple doesn't like to mess with dimensions too much, apart from making devices thinner. But here the 18% reduction in depth (now just 6.1mm) has had the effect of adding 3mm to the height due to rearranged internals. So old cases are generally a no-go if you wanted to upgrade from a mini 2 or 3. You really don't notice that extra length, but you do notice the thinness, it's as ridiculously thin and light as Apple claims in its advertising slogans. Not that the old minis were generally a portability problem, but this is the chuck-in-a-bag iPad you've always wanted. Super-thin, but it feels less delicate than previous models. That's partly due to the air gap reduction in the screen – something the Air 2 rectified from the first Air.

Elsewhere, the external changes are minor but there's

The Mute/Lock switch found on previous iPad minis has been replaced by virtual controls.



The new mini supports Picture in Picture mode with the Videos app and iOS 9's Safari.

no Mute/Lock switch; they are now virtual options in Control Centre.

Mini but mighty

The mini 4's new internals include the A8 and M8 processors found in the iPhone 6 and 6 Plus. The Air 2

found it a nice addition indeed, but the screen size is much reduced on an iPad mini, making it awkward at times to be truly productive with two apps. It's better suited to Mail and Calendar than Safari and Photos. Previous minis have lacked the

You really don't notice the body's extra length, but you do notice its thinness – it's ridiculously thin and light

had the A8X of course, so this mini is not exactly on par with its bigger sibling, which was evident in our tests. Using the GeekBench app, we clocked the mini 4 at an average of 3046 on the multi-core test, narrowly beating the iPhone 6 but still a bit behind the iPad Air 2's A8X. The inclusion of 2GB of RAM helps elevate the mini 4 beyond what the iPhone 6 and 6 Plus are capable of – but we're talking tiny performance gains in real life here. Essentially, this is just as powerful as the iPad Air 2 in real world use, and with iOS 9 it has superb all-round performance for managing documents, editing photos, and videos and games.

It's new features in iOS 9 which are exclusive to the top-end iPads that are the new mini's biggest draw. Split View is a wonderful new way to use your iPad, enabling you to have two apps open at once and usable at the same time. We still

colour accuracy of the iPad Air 2 and recent iPhones. This is no longer the case; there's a clear gamut change here, offering much more vibrant colours. The mini 4 also has the same anti-reflective screen as the iPad Air 2, which helps in bright light situations. As for battery life, it easily matched Apple's quote of 10 hours of surfing the web or playing music or video. **Christian Hall**



The iPad mini is back, and it's no longer the poor sibling of the 9.7-inch model. A good upgrade.

- ➕ Even thinner and lighter
- ➕ Nearly on par with iPad Air 2
- ➕ Anti-reflective screen
- ➖ Split View is small



DxO One

The iPhone becomes an almost-pro-level camera for almost-pro-level cash



£449 Manufacturer DxO, dxo.com

Resolution 20.2 megapixels Aperture f/1.8–11 ISO 100–51,200

> You have to answer two questions in a review: 'is this thing good?' and 'should you buy it?'. With the DxO One – a palm-sized camera with a 1-inch sensor and good optics – the answer to the first is easy: yes. It works stand-alone or can be plugged into a Lightning port so it can use the iOS device's screen as a viewfinder and for control. The second question is a bit more complicated.

Classically, a major advantage of a big sensor is better performance in low light; less noise and truer colours. Unsurprisingly that proves to be the case here. Pit the DxO One against even the well-regarded rear camera in the iPhone 6 in a dim room (the 6s wasn't used in this test), and the former completely trounces the latter. In well-lit scenes, the gap narrows, though the One's shots are still significantly better – with greater dynamic range – even before you take into consideration the extra creative flexibility the DxO One's higher resolution and wider aperture gives you.

What's more, serious photographers will love that it can shoot in raw (DNG), giving you even more creative control once you copy the pictures to your Mac. (Photos and video are saved to a not-included microSD card, and optionally also to the iPhone.) Indeed, it can shoot in a proprietary format which takes four raw shots at once; the included Mac software uses these to process an image which has even less noise. It really works, too.

The JPEG that the camera itself processes from its raw shot is good, but you get the best results when you copy the raws to your Mac and let it process them, even if you make zero tweaks. (This is a CPU-heavy task, but it's multi-threaded.) Which brings us to a problem.

The camera is good, with the companion iPhone app's P/A/S/M modes giving you welcome pro control, and being able to shoot with the One and immediately edit and share from your iPhone is fantastic; that lack of friction sets it

apart from even a modern Wi-Fi-equipped CSC/EVIL camera. Yet since you get even better results by processing the images on your Mac, you then wonder if you'd be better off with a Wi-Fi-equipped CSC/EVIL camera; that would let you change lenses (the One has no zoom, though Olloclip-style add-ons should be possible), and would be more comfortable to use, since the One's ergonomics are awkward – and you'd still be able to squirt occasional shots to your iPhone for quick sharing.

We do love the One, though, and DxO plans to unlock plenty of additional features in software – and even in the hardware. And it might not seem it, but it's well priced given its specs and the quality of the photographs it produces.

If you are looking to buy a great camera and lean a little more towards 'social' and 'apps' than 'traditional photography', then buy this rather than a normal one. Just be aware that even for an enthusiastic amateur, never mind a pro, regular cameras still offer more flexibility, with different lenses and accessories (mounting on a tripod!), and so in the right hands will take better pictures. **Christopher Phin**



A wonderfully pocketable camera upgrade for your iPhone, but a little odd – and a little awkward to use.

- + Capable of superb photos
- + DxO offering feature add-ons
- Not as flexible as a real camera
- A little awkward to hold



The DxO One is about the size of a hotel soap, so is easy to slip into your pocket as you head out the door.

TEAM TALK



I love my Nikon DSLR but I often find it's just too bulky to carry around a lot of the time. This is a great solution to making my iPhone shots look better. It's quite a price though – let's hope it carries on working with future iPhones.

Panasonic Lumix DMC-G7

It's all about the 4K video

★★★★★

£630 (with 14-42mm lens) Manufacturer Panasonic, panasonic.com

Features 16MP, 4K video with three shooting modes, OLED viewfinder, Wi-Fi

The G7 is aimed at enthusiast photographers who want something smaller and lighter than a traditional DSLR, but with picture quality that's nearly as good. Its 16-megapixel (MP) sensor resolution is backed by a new sensor. This is coupled with the Venus Engine 9 processing engine, enabling a native sensitivity range of ISO 200-25,600, with a low expansion setting of ISO 100. There's also a quad-core CPU, enabling full-resolution continuous shooting at an impressive 8fps

(frames per second) in Single-AF (autofocus) mode, or 6fps in Continuous AF mode.

Shooting at a faster rate means dropping the image size to 8MP and using the 4K Photo modes to shoot at 30fps; you can extract the still images from the footage in-camera. The G7 can also record 4K MP4 movies at 100Mbps at up to 30fps in NTSC, or 25fps in PAL. 1080p footage can be shot in MP4 or AVCHD formats, at various frame rates.

While the G7 is fairly lightweight



Panasonic claims the G7's sensor delivers the best image quality of any of its cameras.

and feels like an entry-level camera, its plethora of buttons and dials make it more suited to use by experienced photographers – and it has an OLED viewfinder.

The metering and white balance systems are impressive, and on the whole the Multi Metering system copes very well. Thanks to the Depth from Defocus system, autofocus is also pleasingly fast in nearly all conditions. **Angela Nicholson**



A very capable camera that produces high-quality images. Its 4K recording is a great bonus.

- Clear OLED viewfinder
- 4K photo shooting
- Great image quality
- Not a huge megapixel count

Ministry of Sound Audio M-Plus

Beefy bass and multi-room features

★★★★★

£200 Manufacturer Ministry of Sound, ministryofsound.com

Connectivity Bluetooth, Wi-Fi, aux-in **Battery life** 6 hours at 50% volume

Dimensions 190x140x140mm

It's a common complaint that compact wireless speakers tend to suffer from weak bass output, but that's not a criticism that you could level at Ministry Of Sound's new Audio M-Plus speaker.

The M-Plus stands just 7.5 inches high in its socks, but it's been tweaked by the sound engineers who are responsible for the world-famous nightclub's own in-house music system, and it pumps out a satisfyingly firm and full bass sound that will work a treat for dance music. The mid-range and high

frequencies are also nice and detailed, so the M-Plus can handle gentler sounds too. It's also pretty loud, and we found that just 50% of maximum volume was more than enough for casually listening to a few songs at home in the evening.

There are two versions of the speaker, with the basic Audio M offering just Bluetooth wireless for £150, while this M-Plus model costs £200 and provides Wi-Fi connectivity as well as the ability to group multiple speakers for a multi-room setup. It also has a rechargeable

Wi-Fi connectivity allows the M-Plus to pair with other speakers for a multi-room setup.



battery, which lasts for about six hours at 50% volume – long enough for you to take the M-Plus outside for a barbecue or a picnic.

Our only complaint is that Ministry of Sound's iOS app is a bit rough around the edges. It took us a couple of attempts to sort out the Wi-Fi connection, and when using that you have to play music through the Ministry app, which means you can't stream playlists you've created in Apple's Music app. **Cliff Joseph**



The iOS app needs work, but the firm bass will appeal to clubbers wanting to pump up the volume at home.

- Strong bass sound
- Lots of connectivity
- Runs off mains or battery
- The iOS app is a bit poor

We're still loving...

BACKBEAT PRO

If you're going wireless, these cans will be music to your ears



I am a clumsy, clumsy man. Dropped plates and knocked over cups are a regular occurrence in my life, while it's safe to say that MagSafe was an absolute godsend for me. So when it comes to headphones, going wireless was a no brainer, for reasons of personal safety if nothing else.

The Plantronics Backbeat Pro headphones are a top choice, and not just because they won our group test back in *MF288* (and deservedly so). The sound quality really is superb and the Bluetooth signal is excellent, so you can amble around your house in a sonic reverie without fear of dropped connections.

The clever on-ear controls feel totally natural and are very quick to grasp – turn the right earpiece to adjust volume, the left earpiece to skip tracks or push in the left earpiece to play and pause songs. Simple.

Aside from these nifty features, the battery life of these 'phones is simply stupendous. I use mine on my hour-long commute every day, and they last almost three weeks of solid use without needing a charge. And you won't mind keeping them on for hours at a time either, as these are some seriously comfy cans.

So, if you're looking for some wireless musical manna, the Backbeat Pros hit all the right notes.



Kit | **RATED**

The capacitive touchscreen lets you perform most tasks without using a computer.

TP-Link Touch P5

A multi-talented router that can be configured without a computer



£140 **Manufacturer** TP-Link, tp-link.com

Features 802.11ac, 2.4GHz and 5GHz bands **Security** WPA2/WPA-PSK2

The TP-Link Touch P5 router is that rarest of things – a networking device that's meant to be seen and not hidden. That's thanks to its capacitive touchscreen, on which you can perform almost all of the configuration that's required.

In hardware terms, the Touch P5's port selection is pretty standard. It has four Ethernet ports, a clearly labelled internet Ethernet port for connecting to your service provider, one USB 2.0 port and one USB 3.0 port for connecting a hard drive, which can be shared over the network, or to share a printer or another peripheral.

DLNA-enabled devices will be able to stream media, and the manufacturer even boasts capacity for streaming 4K video on the faster 5GHz band supported by the router. This transmits at up to 1300Mbps, with an additional 600Mbps available on the 2.4GHz band for less demanding tasks. We found signal strength to be excellent, thanks in part to the three large

antennae that you connect to the rear of the router.

What you make of the Touch P5's aesthetics will be a matter of personal choice, but you can't deny it has some grunt when it comes to file transfer speeds. Although a browser-based interface is available, you can do most of your interaction using the touchscreen. Inside the router there is, remarkably, a dual-core 1GHz processor, which makes everything fairly smooth. The software is easy to understand and has useful options like guest networking, parental controls and the option to work as a router, repeater or access point. It's a matter of opinion how much a router needs a touchscreen, but this one works very well. **Hollin Jones**



A full-featured router with lots of bandwidth and a well-designed touchscreen interface for computer-free configuration.



SENGLED PULSE

★★★★★

£48 Manufacturer Sengled, eu.sengled.com

1 This is a really bizarre idea – a power-efficient lightbulb that, for some reason, also has a Bluetooth speaker built into it.

To be fair, the sound quality from the JBL speaker isn't too bad at lower levels, so the Pulse might be a handy way of sending toddlers off to sleep at night – and you can use the iOS app to gradually lower both the music and the light until the little 'uns drop off.

Unfortunately, the compact little speaker struggles at higher volumes, and can't really handle anything more than low-level background music. **Cliff Joseph**

Mac
FORMAT
VERDICT *The Pulse might be handy for the kids' bedroom, but it's no replacement for a conventional Bluetooth speaker system.*

GROOV-E POWER PACK

★★★★★

£60 Manufacturer Groov-e, groov-e.co.uk

2 Any battery pack that claims to charge your iPhone four to six times over is bound to turn heads, and the Groov-e makes just such a bold promise. Unfortunately, it can't live up to it – it charged our iPhone 6 Plus less than 1.5 times on the 2.4 Amp port before dying (curiously, the 1 Amp port provided just over 2.5 charges). It's roughly the size of a 6 Plus, so isn't the most pocket-friendly power pack, and you'll also need to supply your own Lightning cable. Shop around, because there are more portable, powerful options out there. **Alex Blake**

Mac
FORMAT
VERDICT *Fails to live up to its ambitious claims on charging life; look elsewhere for your mobile charging solutions.*

MONOWEAR WATCH STRAP

★★★★★

\$80 (about £51) Manufacturer Monowear, www.monoweardesign.com

3 Fancy an Apple Watch band made of genuine leather that doesn't cost £129? Monowear's £51 leather strap is beautifully made, comfortable, and its metal adaptors come in three finishes to match your Watch.

It looks, feels and smells good, but doesn't look quite like it does on the website: what looks like dark brown suede in the photos is actually a shiny tan colour in real life. Leather does darken with age and use, but even after several weeks of constant wear the brown option is still much lighter than we'd like.

Gary Marshall

Mac
FORMAT
VERDICT *Monowear's strap is beautifully made, but the brown option is a little lighter than you might expect.*

KLYP+ DELUXE PHOTO KIT

★★★★★

£93 Manufacturer Manfrotto, manfrotto.com

4 Designed to give you more creative options when shooting with your iPhone, this kit comprises an adaptor for mounting it on a standard tripod, a 225 lumen LED light, and two screw-on lenses, a wide-angle and a 3x telephoto; macro, polarising and other lenses are available. The lenses are clear, and the light, while no match for pro kit, can give welcome, reasonably diffuse illumination. The case isn't comfortable to hold, though, thanks to the admittedly clever rails system, and we worried about scratching the iPhone taking it on and off. **Christopher Phin**

Mac
FORMAT
VERDICT *A handy, extendable system, though we wouldn't want to leave the sharp-edged case on all the time!*

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Parallels Desktop 11 for Mac

A fast and effective way to run Windows and other operating systems inside OS X



£64.99 Developer Parallels IP Holdings, parallels.com

Requires OS X 10.9.5 or higher, Intel Core 2 Duo or better



Parallels Desktop allows you to run alternative operating systems within OS X.

It's far more flexible than free rival VirtualBox, and version 11 continues to improve performance while adding handy new features.

A key reason to get it is El Capitan and Windows 10 support – the latter runs in Parallels 10, but it's neither officially supported nor optimised. Parallels 11 sweetens the deal by using its standout Coherence mode to integrate key Windows 10 apps and features directly into your OS X desktop, most notably the new Notification Centre, which closely resembles OS X's own, and the Cortana search assistant – useful until Siri makes its way into OS X.

Parallels 11 also makes one of OS X's underrated features available to your virtual machines. Quick Look isn't available in Windows, but by enabling 'Access Windows folders

Parallels Desktop 11 adds official support and optimisations for Windows 10.

from Mac' under Settings > Sharing, you can press the spacebar within your VM to preview a file in OS X.

On a MacBook, Travel Mode promises to cut power consumption by VMs to prevent them quickly draining your battery. It's enabled in each VM's settings.

Coherence mode integrates key Windows 10 features – notably the Cortana search assistant – into OS X

As with previous releases, Parallels 11 promises improved performance. The best improvements are in processor usage, particularly when

using multiple cores, but aside from when booting a Windows 10 VM it's not obvious. Still, the gap between virtual and native performance gets that bit narrower – with one notable exception: Parallels 11 is stuck using DirectX 10 technology, which means graphics performance is no better

than in Parallels 10. Ultimately this translates to one key thing: hard-core gamers are better off using Boot Camp, but for everyone else, Parallels makes everyday computing a breeze, so long as you have the CPU, RAM and drive space to spare.

The new subscription-based Pro edition has a consequence for regular users. Each VM is now limited to four processor cores and 8GB RAM. This won't affect most people, but power users should take note.

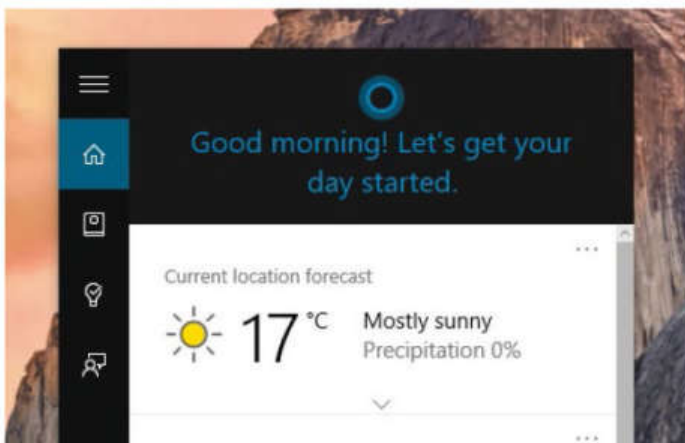
Parallels Desktop continues to evolve gracefully – it's a no-brainer for anyone wanting to run Windows on their Mac for the first time, but version 10 users can probably hold off this year's upgrade, unless you're desperate for those Windows 10 enhancements. **Nick Peers**



TEAM TALK



With Siri absent from El Capitan, and my dismay over variable success with natural language in Spotlight, the option of setting aside some resources to use Cortana in OS X makes Parallels 11 pretty close to essential for me.



Can't live without Siri? Microsoft's Cortana may be the closest you'll get for a while.



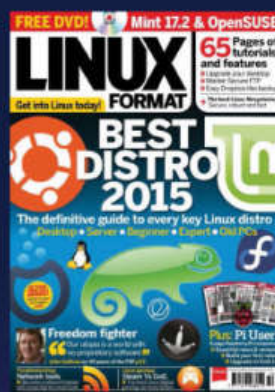
Incremental improvements help Parallels remain a compelling way to run Windows on your Mac.

- + Excellent Windows 10 integration
- + Powerful yet easy to use
- Not an essential upgrade
- New CPU/RAM limits for VMs

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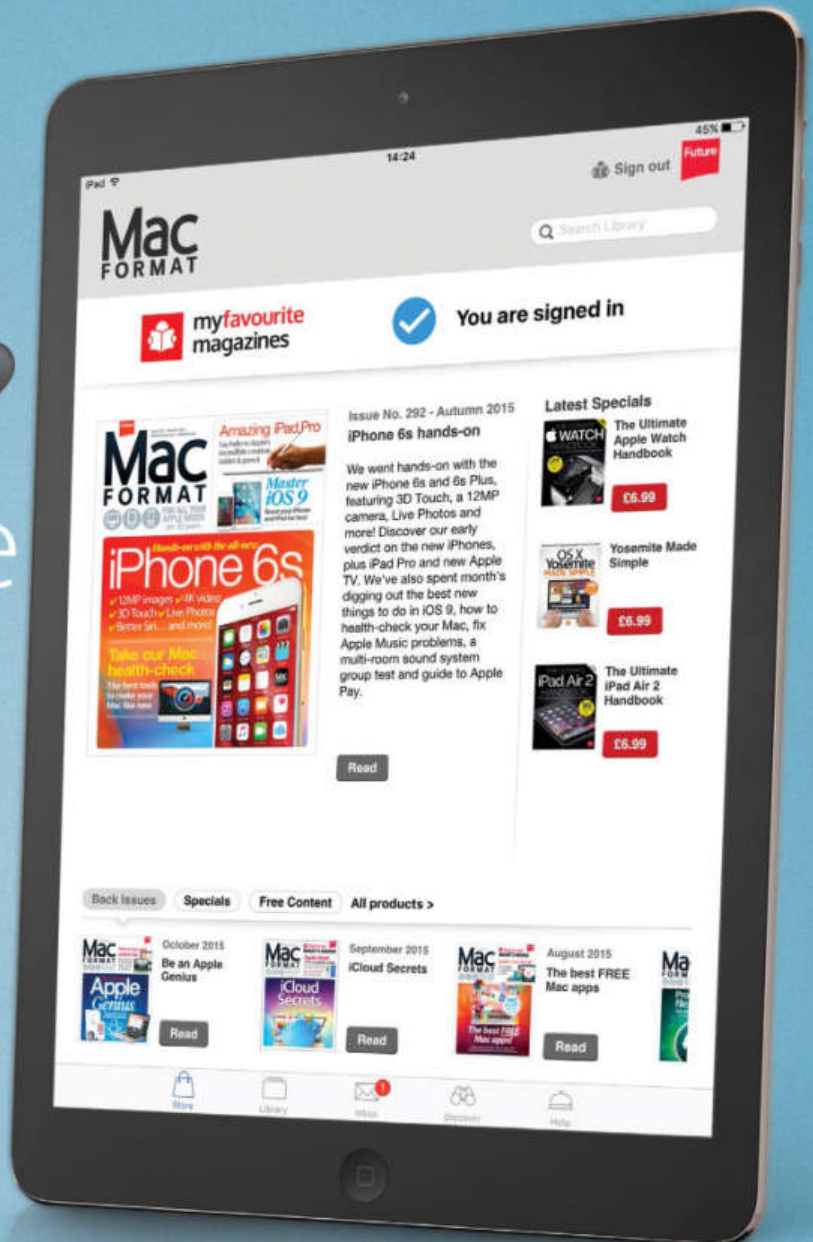
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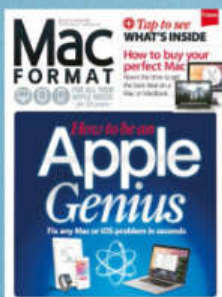
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Issue 292
Autumn 2015

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Issue 291
October 2015

How to be an Apple Genius • Discover the Secrets of Siri • How to buy your perfect Mac • Apple Mail alternatives • Keyboard control tricks



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September 2015

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True Image Cloud

Get unlimited online backups – provided you have the patience



From £64.95 per year Developer Acronis, acronis.com

Requires OS X 10.9.5 or higher, iOS 8.0 or higher (optional)



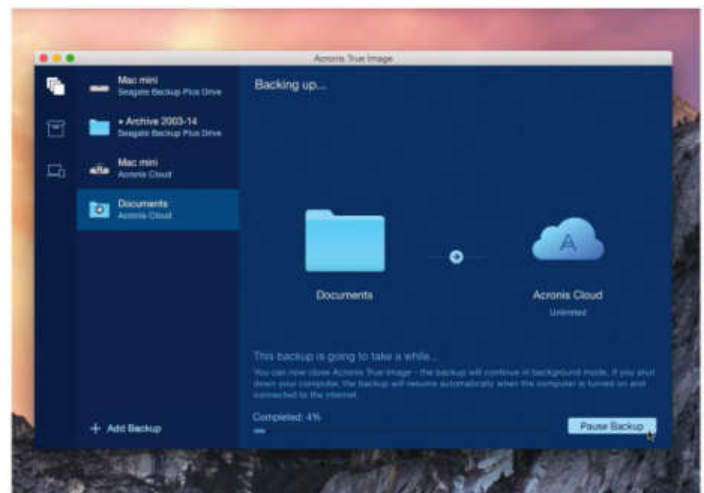
Acronis True Image Cloud offers both local and cloud-based backup in a single

product. It's simple, easy to use and set up, and smart – particularly when saving backups locally. But Acronis would prefer you pay for a costly cloud-based subscription too, with its entry level product supporting one Mac and three mobile devices, including your iPad and iPhone, with unlimited backup space.

You can choose to back up an entire hard drive or select a specific folder, then opt whether to save your

backup to a local or network drive, or use the cloud storage plan. If you choose the latter, the app will detect folders from other cloud providers and offer to ignore these to shrink the backup. Still, even with these folders removed, it's likely you'll be backing up tens or even hundreds of gigabytes, which could take weeks to complete. Later incremental backups are quicker, but you're better served backing up locally first.

We like the local backup system – it's relatively fast and there's more flexibility than using Time Machine. But despite some nifty options – like



True Image Cloud lets you back up your Mac or selected folders locally and online.

an archive function for storing large files permanently in the cloud to free up space locally – the cloud backup is slow and too expensive, even with unlimited space. You're better off buying True Image 2016 on its own (just £34.95) and pairing it with your existing cloud provider for backing up personal data only. **Nick Peers**



Great as a local back-up tool, but the cloud-based options are slow and far too expensive.

- Flexible back-up options
- Local backups work well
- Cloud option is expensive
- Defaults to slow upload speed

Carrot Weather

Puts charmless meteorologists and weather apps to shame



£8.99 Developer Grailr, meetcarrot.com

Requires OS X 10.10 or higher



Weather apps are generally functional. You peer at symbols and predictions, and

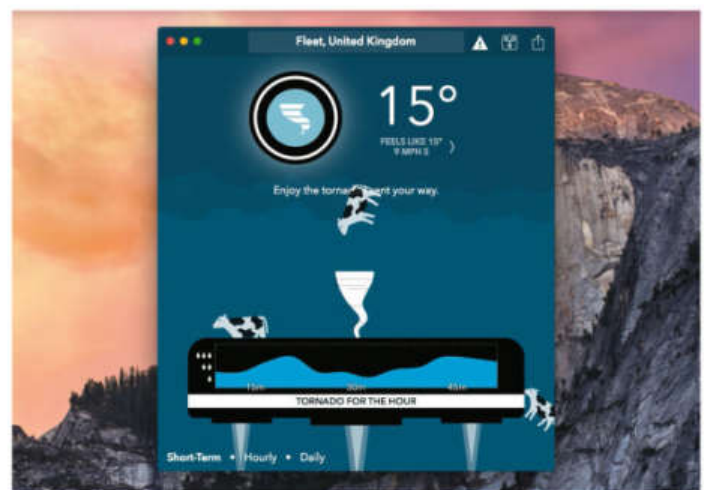
perhaps watch the odd video of someone pointing at maps, but there's rarely any fun. Meteorologists can't even bring themselves to wear amusing hats. Carrot Weather has a markedly alternative approach, infusing humour and entertainment into forecasting, largely through having predictions provided by a hostile artificial intelligence that probably has Skynet on speed-dial.

After cheerily stating "Greetings,

meatbag", noting adverse weather post-activation is "coincidental", and warning you not to poke its ocular sensor, Carrot begins forecasting.

You can switch between short-term, hourly and daily forecasts, each with rainfall and temperature predictions. There's also a time machine feature for ruing that it was warmer this time last year (then finding it wasn't).

Mostly, though, Carrot is about snark. The AI is amusingly hostile, laughing at you when it's raining, sending hurricanes when you poke its ocular sensor one too many times, and illustrating the weather



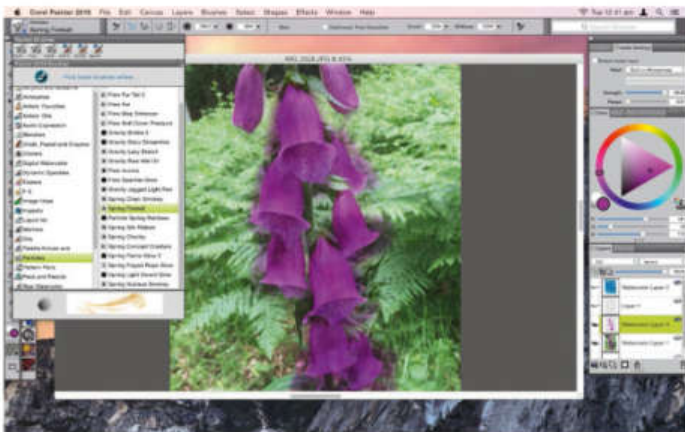
Carrot Weather: a bit like if forecasts were provided by The Terminator.

with oddball illustrations, such as a sad person sitting in a bath when it's grey and rainy. Naturally, the app's a luxury – perhaps an extravagance. You can get similar information for free via forecast.io. But we're glad it exists anyway – at least, assuming Carrot doesn't use its time machine to find John Connor. **Craig Grannell**



An amusingly silly weather app that provides decent forecasting alongside a dose of entertainment.

- Amusing and entertaining
- Loads of data to peruse
- Secret locations to discover
- No rainfall radar maps



Great software for the professional and amateur alike – and at a reasonable price, too.

Painter 2016

Add some new tools to your digital paintbrush and easel



£314.95 Developer Corel, painterartist.com

Requires OS X 10.9 or higher, Intel Core 2 Duo, a mouse or graphics tablet



As soon as you launch Painter 2016 you're shown a redesigned welcome screen that gives you access to helpful tutorial videos. This is a great way to discover more about Painter's new features, even if you've used an older version.

Like its predecessors, the 2016 edition has an abundance of brushes and effects. Some are obvious, like watercolour and paint brushes, but there are a number of new and more unusual effects, such as the rather fun Dynamic Speckles. Though we found a lot of the brushes in this set to be fairly ordinary during our experimentation, the Particle Firestarter Glow gave a nice random 'firework'-type effect.

Another effect that we really liked was the Audio Expression brush. We had a few problems getting this working at first, but after tweaking a few settings we soon saw our brushes' size, colour and other attributes changing in time to our music. When this tool is combined with other brushes you can get some interesting and unique results. It makes for a fun addition to your toolset, although we doubt it will

get much use after the novelty has worn off.

Painter is by far the best digital easel out there, and this new version maintains that status. With plenty of tools and functionality packed in, we certainly think that it's well worth the money if you're after a great app for creating digital art.

That said, if you already have Painter 2015, the new features probably aren't worth the money – even though you can upgrade for £159 (about half the cost of a new copy). Yes, the new tools are fun, but consider carefully whether they will be a key part of your toolset once their novelty has worn off.

James Robinson



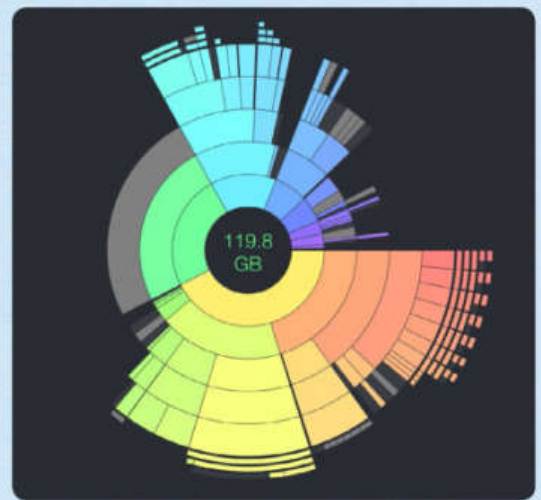
Painter 2016 is as close to the real thing as you can get in the digital world, yet its new features are more fun than indispensable.

- + Easy application of watercolours/ink
- + Great array of brushes and effects
- + Brushes really act like real versions
- New features aren't compelling

We're still loving...

DAISYDISK

Alan almost finds it fun to manage storage with this utility

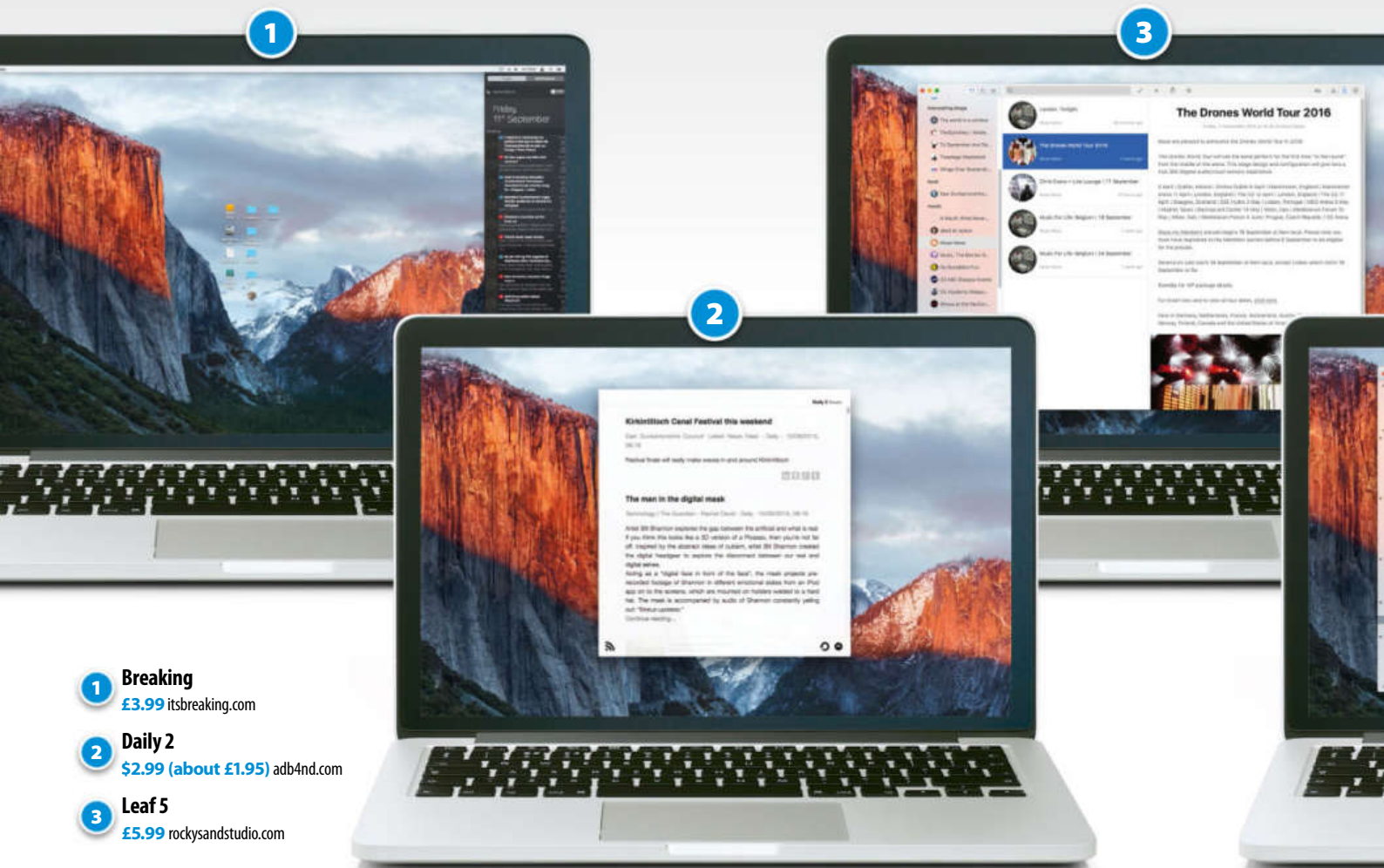


There are several ways you can get a breakdown of what's using up your Mac's storage in order to work out what to archive or trash. Opening the Finder's Inspector window gives a cumulative total for what's selected, but it can be slow to run calculations. Alternatively, there's GrandPerspective, a free tool we talked about in *MF292*. DaisyDisk (£7.99) is our favourite, though.

In order to show disk usage right down to your Mac's deepest folders, DaisyDisk first has to scan a drive's file system. Previously this could take minutes, but the recently-released version 4 relieves this frustration – itself a minor barrier to getting on with work when you're running very low on space. It's orders of magnitude faster, scanning our almost full 512GB SSD in seconds.

DaisyDisk's pretty representation of how your storage has been used is also practical. Its innermost ring represents the current folder, and outer ones are its subfolders. The size of each subfolder is shown in a key on the right, and each segment's relative size gives clues as to where to start looking for space hogs. As you browse a drive, items can be added to the Collector. These decisions can be rescinded, and if you press Delete, you get a brief chance to cancel it.

DaisyDisk quickly proves its worth on today's Macs with flash storage, where limited capacity can frequently run out.



- 1 Breaking**
£3.99 itsbreaking.com
- 2 Daily 2**
\$2.99 (about £1.95) adb4nd.com
- 3 Leaf 5**
£5.99 rockysandstudio.com

The best Mac newsreaders

Experience a faster internet and stay up to date with your favourite sites thanks to the magic of RSS

➤ RSS means different things to different people – to some, it's Really Simple Syndication, to others Rich Site Summary – but it delivers the same benefits to everybody: it's a way to subscribe to your favourite websites and get new articles the moment they're published. RSS isn't as fashionable as it used to be, but on an internet where every page seems stuffed with ads and trackers it's more useful than ever before. Reading in RSS means no auto-playing videos, no pop-ups and none of the other things that can make browsing the web so annoying sometimes. It's particularly good if you're trying to catch up with

things when you're out and about: refreshing an RSS reader on a crowded Wi-Fi connection is much more pleasant and much faster than browsing individual websites.

RSS feeds are simple: each one has a web address, such as techradar.com/rss, and RSS reading software can subscribe to that feed. Whenever a new article is published online the feed is updated, and when your RSS reader next checks the feed the article appears in your reader automatically.

In this test we've put six very

When every web page seems to be stuffed with ads and trackers, RSS is more useful than ever

different RSS readers through their paces. Breaking puts headlines in your Notification panel, and that's about it; Daily delivers a no-frills news feed that's simple and speedy to navigate; Leaf, NetNewsWire and ReadKit are brilliant for beginners but perfect for power users too; and Pulp puts your feeds into a newspaper-style format for easy reading and sharing.

While all of our RSS readers use the same feeds, the way they use them differs dramatically – and the things you can do with them differs too. Some are stripped-back and simple, others support every conceivable sharing service, some give you complete control over how every single letter looks and some enable you to sync with iOS companion apps too. But which one is best? There's only one way to find out. Let's put them through their paces. **Gary Marshall**



4 **NetNewsWire 4**
£7.99 netnewswireapp.com

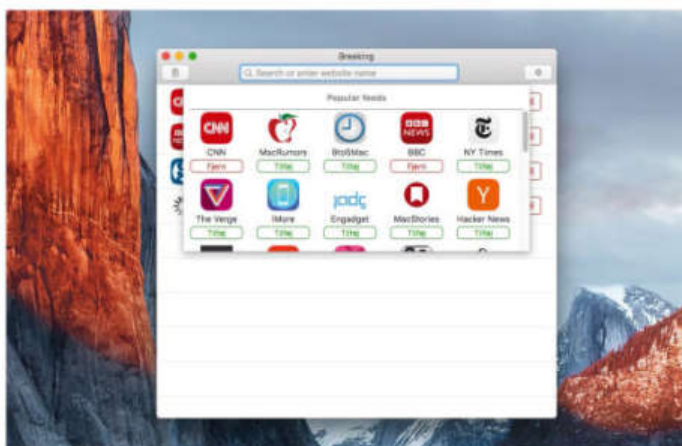
5 **Pulp**
£7.99 acrylicapps.com

6 **ReadKit**
£7.99 readkitapp.com

NEWSREADERS | AT A GLANCE



	Breaking	Daily 2	Leaf 5	NetNewsWire 4	Pulp	ReadKit
Developer	Robocat	Adband	Rocky Sand	Black Pixel	Acrylic Software	Balazs Varkonyi
Web	itsbreaking.com	adb4nd.com	rockysandstudio.com	netnewswireapp.com	acrylicapps.com	readkitapp.com
Price	£3.99	£1.95	£5.99	£7.99	£7.99	£7.99
Requires	OS X 10.10 or higher	OS X 10.7 or higher	OS X 10.9 or higher	OS X 10.8 or higher	OS X 10.7 or higher	OS X 10.8 or higher
Free trial?	No	Yes	No	Yes	No	Yes
iOS app?	Yes	No	No	Yes	Yes	No
Syncs with	N/A	N/A	Feedly, NewsBlur, Feedbin, Feed Wrangler	Yes (NetNewsWire server)	iCloud	Feedly, NewsBlur, Fever, Feedbin, Feed Wrangler



Breaking's add/remove buttons aren't in English. Not a very impressive start.

TEST ONE

FIND READING MATERIAL

Import and create new subscriptions

People tend to approach RSS readers in one of two ways: with a blank sheet, looking for recommendations, or with a big bunch of existing RSS subscriptions that they want to import.

Breaking doesn't import feeds; it starts with a screen urging you to add some websites. Its handful of feed suggestions are labelled with buttons that aren't in English.

Daily comes with suggested feeds and can import feeds that have been exported from another reader or service in the OPML format. Pulp comes with a list of useful feeds, but if you don't like them it's easy enough to customise the pages and their contents and to add more.

Leaf, NetNewsWire and ReadKit all assume that you know what you're doing here, with OPML import from other apps or services and in the case of NetNewsWire, import from the previous version of the app. Cleverly ReadKit also doubles as a reader for services such as Instapaper and Pocket, so things you've saved in those services will appear in ReadKit.

TEST RESULTS

Breaking	★★★★★
Daily 2	★★★★★
Leaf 5	★★★★★
NetNewsWire 4	★★★★★
Pulp	★★★★★
ReadKit	★★★★★



Pulp is unlike anything else here, taking feeds and showing them newspaper-style.

TEST TWO

GETTING THINGS DONE

How easy are the apps to use?

Breaking is simple: swipe the Notifications area out to read, swipe back to get rid of it again. Clicking or tapping a headline opens it in Safari and optionally in Readability.com, and scrolling makes the text overwrite itself to make everything unreadable.

Daily's single scrolling window goes semi-transparent when it isn't the focus – but it remains on top of other windows, so if you click them Daily reappears. That's annoying.

Pulp is like a newspaper, with a wooden shelf to which you drag things you want to read later. Clicking a story gives it most of the window, and Magic Reader attempts to turn part-articles into full ones

without formatting.

Leaf, NetNewsWire and ReadKit take a more traditional approach with feeds and their contents in sidebars and the current article in the main window. NetNewsWire supplements this with tabs that keep articles open while you browse feeds. Leaf and ReadKit also offer clutter-free views that remove items such as inline adverts from feeds.

TEST RESULTS

Breaking	★★★★★
Daily 2	★★★★★
Leaf 5	★★★★★
NetNewsWire 4	★★★★★
Pulp	★★★★★
ReadKit	★★★★★

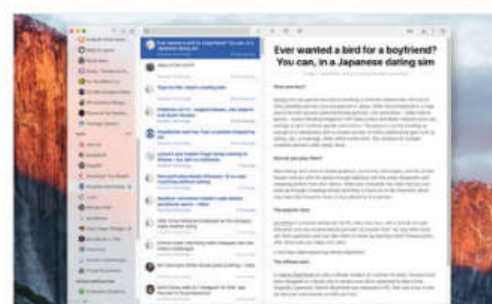
HOW WE TESTED | NEWSREADERS

We've been RSS addicts for a long time, and we've used a variety of desktop, web and iOS apps to manage our feeds. Our current online aggregator is Feedly, which we use to organise our feeds in folders and to sync across multiple platforms – so if we use the ReadKit app to read via Feedly on our Mac, Feedly then updates its own app on iOS. That's handy if your desktop app lacks an iOS companion.

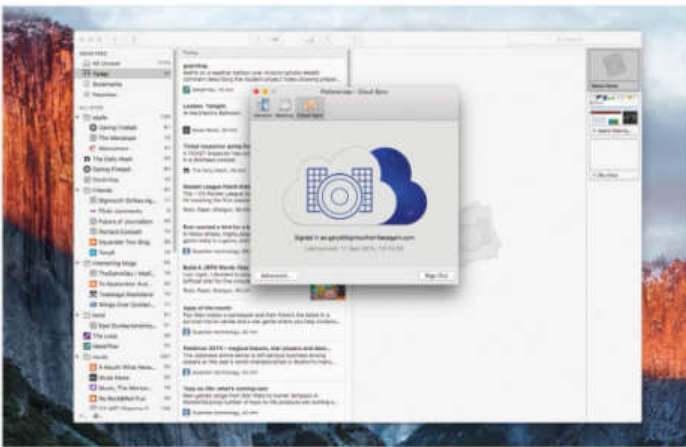
We subscribed our apps to Feedly where possible and we added subscriptions manually via search or URL where appropriate. If a newsreader supported OPML (Outline

Processor Markup Language), we imported subscriptions that way.

We focussed on four key areas: how easy it was to add RSS feeds, how quickly and easily we could find our way around the app, what sharing and synchronisation options were available and, most importantly of all, how much personalisation each app offered. We use RSS to tame information overload, and having a consistent, customisable interface makes a huge difference to how much information you can process and how quickly you can process it.



Consistent formatting is vital if you use multiple feed sources.



NetNewsWire syncs with its nifty iPhone app via the cloud to avoid duplication.



ReadKit offers lots of formatting options, Readability mode and a focus mode too.

TEST THREE

SYNCING AND SHARING

Twitter, Facebook and other key services

➤ Sharing can be as important as reading: it's always fun to post your righteous anger about Katie Hopkins on Facebook, or to tweet the latest Daily Mash daftness. Breaking has a share button for Facebook, Twitter, Instapaper; Daily offers buttons for LinkedIn, Facebook, Google+ and Twitter and Pulp's share button offers Facebook, Twitter, Mail and Safari's Reading List.

Sharing's a bit more interesting with the remaining readers, especially ReadKit: it can send to Pocket, Instapaper, Readability, Pinboard, Delicious, Twitter, Facebook, Buffer, Evernote, Mail or Reading List. Leaf offers Buffer, Facebook, Flickr, Instapaper, LinkedIn,

Mail and Messages, while NetNewsWire has Mail, App.net, Facebook, Twitter and Instapaper.

NetNewsWire offers cloud sync between it and the iPhone NetNewsWire app, while it, Pulp, Leaf and ReadKit all offer OPML export for sharing with other newsreaders – although in ReadKit that option's only available for its built-in RSS reader, not services such as Feedy.

TEST RESULTS

Breaking	★★★★★
Daily 2	★★★★★
Leaf 5	★★★★★
NetNewsWire 4	★★★★★
Pulp	★★★★★
ReadKit	★★★★★

TEST FOUR

PERSONALISATION

What options are there for power users?

➤ Personalisation is one of the key features of RSS readers: having a consistent design and consistent navigation across multiple sources means we can better concentrate on the tailored content. Daily falls at the first fence here, because while its styling is consistent you can't change any of it. Breaking doesn't make the cut either because it's merely a Notification Area widget, and Pulp lets you make the text bigger and that's about it.

That leaves Leaf, NetNewsWire and ReadKit. All three offer excellent formatting features that enable you to view articles exactly how you like them, but NetNewsWire doesn't offer themes: Leaf has a light and a dark

mode, while ReadKit has four different coloured themes plus Readability integration to improve feeds' formatting and a Focus Mode that hides the sidebars so you can concentrate. ReadKit also has something superb: Smart Folders. They work just like they do in Mail, enabling you to filter your feeds for specific words or phrases, sources, timeframes or tags.

TEST RESULTS

Breaking	★★★★★
Daily 2	★★★★★
Leaf 5	★★★★★
NetNewsWire 4	★★★★★
Pulp	★★★★★
ReadKit	★★★★★

THE WINNER | READKIT

Breaking is broken. It's a notification widget that doesn't work properly, that hasn't been localised and whose key feature is offered by both Leaf and ReadKit.

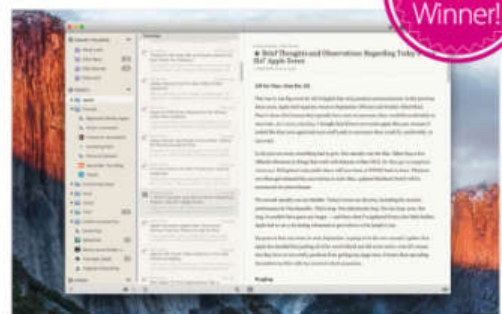
Daily 2 is simple, but it's a little too simple for our taste and its persistent semi-transparent window just gets in the way. It doesn't scale well to multiple feeds either. Neither does Pulp, which offers a good newspaper-style layout but which isn't suited to RSS junkies.

That leaves Leaf, NetNewsWire and ReadKit. They're all superb programs, especially for power users, but ReadKit's extra service

integration and more extensive display options give it the edge. It's the same price as Breaking but it's from a completely different planet.

FINAL RESULTS

Breaking	★★★★★
Daily 2	★★★★★
Leaf 5	★★★★★
NetNewsWire 4	★★★★★
Pulp	★★★★★
ReadKit	★★★★★



ReadKit's superb features make it a cut above the rest.



Homeworld Remastered

An epic journey that's worth the risks



£25.99 Developer Aspyr Media, aspyr.com

Requires OS X 10.9.5 or higher, 2.2GHz Core 2 Duo, see website for graphics cards



Strategy games aren't known for their tear-jerking qualities. This one's the exception.

You float above what remains of your broken planet, sombre classical music in the background, trying to salvage scraps of civilisation. At the other end of the galaxy, a new home awaits, but only if you can get your mothership past the alien armies trying to keep you in your place. Rarely has the fate of a fictional species carried so much weight, or led to a more memorable journey.

Homeworld 1 and 2 are among the very few strategy games to treat space as 3D, with all the tactical possibilities that offers. The stock missions are made more interesting by allowing surviving ships and remaining resources to persist throughout the campaign. These new, remastered versions don't meddle with anything that works.

The only catch is that the Mac App Store release lacks multiplayer. That's coming in a later Steam edition, but you won't get a free code to join in. Both games are



The 'spaghetti' look of the ship trails has been copied, but was iconic in 1999.

arguably best in single-player mode, so it isn't necessarily a deal-breaker, but it's unfortunate to lose out – especially at this high price. Still, they remain excellent games many have admired but few have copied. This version adds just enough polish to keep turning heads even in its dotage. **Richard Cobbett**



A strategy classic that's more than stood the test of time. Just be prepared for a hefty challenge.

- ✚ Excellent space strategy
- ✚ Hugely atmospheric
- Remastered and original games
- ✖ No multiplayer

Satellite Reign

A top-down tactical strategy with futuristic cyberpunk flair



£22.99 Developer 5 Lives Studios, satellitereign.com

Requires OS X 10.6 or higher, 2.4GHz dual-core CPU, see site for graphics cards



Satellite Reign tasks your squad of four with shooting, sneaking and hacking through a series of military-industrial compounds in a war against an evil mega-corporation.

Missions in five city districts follow the same stilted format – sneak into a vault, sneak out – but with notable freedom. You could shoot out the lights, hack all the cameras, kill the guards, or hijack a passerby to use as a decoy. This makes for dynamic and unexpected set pieces, breathing life into otherwise repetitive quests.

Missions are buttressed by rote tasks: siphoning cash out of banks, bribing weapons researchers, and stealing DNA to replace dead agents. High-quality DNA incrementally improves health and stamina.

Capacity for improvisation is often frustrated by opaque mechanics or clunky execution. It's rarely clear if, say, guards will spot an agent in cover. Combat demands inordinate micromanaging, made worse by the lack of the 'tactical pause' common in the genre. Firefights usually devolve into chaos as your location is overrun after the slightest misstep.



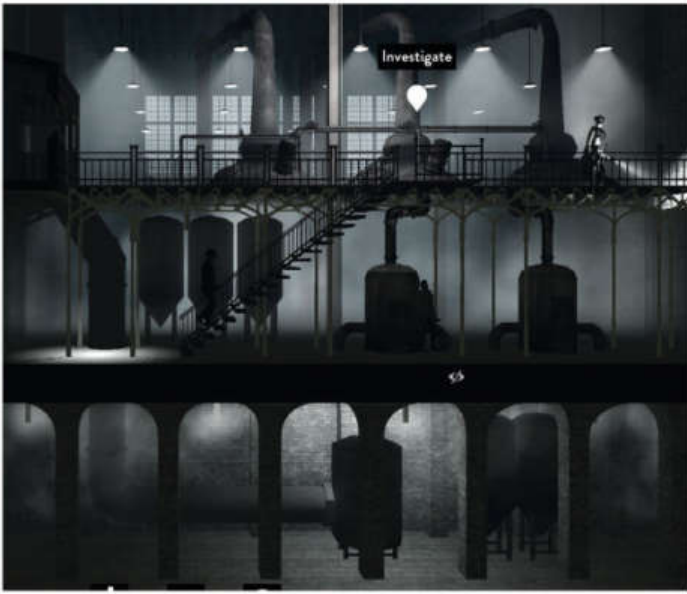
Some guards escort you off the premises – move suddenly and the guns come out.

At its best, this is a meticulous and difficult game, but its mechanics too often fail the experimentation it tries to encourage. Still, a successful heist, as a surgical strike or a desperate dash, offers the rare exhilaration of player-created drama, and Satellite Reign's arsenal becomes more fun and usable over time. **Joseph Leray**



If you're patient enough to overcome its barriers to entry, Satellite Reign is a fine, if uneven, tactical game.

- ✚ Expansive world is full of activity
- ✚ Customisation and flexibility
- Inelegant controls
- Not enough mission variety



Calvinio Noir specialises in dramatic locations and gravelly-voiced needless verbal sparring.

Calvinio Noir

A game that's just a bit... grey

★★★★★

£2.99 Developer Calvinio Noir, calvinionoir.com

Works with iPhone, iPod touch, iPad **Version** 1.2



Though many games go for a film noir feel, very few manage to pull it off successfully, often just putting any old detective story in a monochrome environment and calling it a day.

Calvinio Noir is one of the better attempts at hitting that noir-inspired atmosphere – not just its rain-soaked black-and-white stylings, which plays with 3D perspective and light to great effect, but also its cast of characters of questionable trustworthiness and unsure motivations. You play as private investigator Wilt, who finds that a simple job will suck him into something much larger.

The actual game involves sneaking Wilt (and other characters he teams up with) through 2D scrolling levels, avoiding detection while investigating suspicious doings. Control is handled with a kind of point-and-click interface, and unfortunately this is Calvinio Noir's main stumbling block. Moving multiple characters around a level

means a lot of switching and tapping, and in carefully timed stealth sections, it's often clumsy and irritating. There are many parts of levels that are just a pain to get past without dying, rather than ever being fun or empowering. At times, it's fine, but often it feels like far too much hard work.

The story (you get a third for the price – the rest is unlocked through in-app purchases) comes in dialogue dotted throughout the levels, fully voice acted and with some multiple choice responses for Wilt. But it tries way too hard to be "hard-boiled," frequently leaving us rolling our eyes at both the lines and their delivery.

Indeed, the experience overall is just too easily forgettable. For all its promise, it has too many flaws to be a must-have game. **Matt Bolton**



Calvinio Noir is certainly a beautiful-looking stealth detective game, but it just isn't as fun to play as it should be.

LARA CROFT GO

Tomb raiding takes a new path

★★★★★

£3.99 Developer Square Enix, square-enix.com

Works with iPhone, iPod touch, iPad **Version** 1.0.47768



Lara Croft GO eschews real-time gameplay for a turn-based affair. Your movements are restricted to grid-like paths within the levels, and many actions are automatic, such as picking up items or attacking nearby foes. Everything is very deliberate; enemies and obstacles only move when you do, resulting in a cerebral affair that favours careful planning over quick reflexes.

Nonetheless, the game is extremely satisfying thanks to creative level design and excellent pacing, and the adventuring never grows stale

due to increasingly complex elements – like pressure switches, crumbling floors and moveable platforms – that put your puzzle-solving skills to the test.

Of course, there are the obligatory collectables too. Dozens of hidden gems and artifact pieces will test your powers of observation, and full sets unlock new costumes for Lara. **Chris Hoffman**



An excellent puzzle adventure, albeit without the adrenaline-fuelled action of the current Lara Croft.

SPUTNIK EYES

Falls just short of brilliance

★★★★★

£1.49 Developer Shelly Alon, sputnikeyes.com

Works with iPhone, iPod touch, iPad **Version** 1.1



In just a few years, mobile games have gone from time-killing curiosities to must-have titles. Puzzler Sputnik Eyes comes close to the latter, but falls just short of addictive greatness. In each level, colourful one-eyed creatures sit on a grid of lines, and you'll match each Eye with its coloured base using simple taps. As you progress, levels add challenges like more Eyes and colour-coded tracks. This throws a wrench into the gameplay, and you'll be rewarded for completing each

level under time and in as few moves as possible.

Where Sputnik Eyes shines is its polished presentation—pretty but minimal visual design and calming ambient sound. While the gameplay itself is certainly fun, it never quite reaches the level of maddening brain-teasing that puzzlers should provide.

Sarah LeBoeuf



Sputnik Eyes is a fun puzzle game but lacking in challenge and depth, despite gorgeous design.

CLOUD OUTLINER 2 PRO

Share outlines fast with Evernote

★★★★★

£2.29 Developer XwaveSoft, xwavesoft.com

Works with iPhone, iPod touch, iPad **Version** 2.2



Capturing ideas in the form of outlines is one of those things you either do as a matter of course, or you don't. Cloud Outliner won't change that, but if you're in the former camp it provides a way to put together outlines on the move very easily and sync them with Evernote or a version of Cloud Outliner on another device.

It looks great and its support for gestures, as well as its well-designed user interface, make drawing up outlines very easy indeed. For example, to indent or un-indent an entry, you need only drag it right or left and it

sticks. If you'd rather press a button, you can.

There are plenty of options for refining the look of outline documents, including a choice of light or dark themes, and there are also options to use colours for entries.

If you're a regular outliner and don't yet have a go-to app, Cloud Outliner could be the one you've been looking for.

Kenny Hemphill



Creating and formatting outlines couldn't be any simpler. Syncing them with Evernote is a great idea.

QUICKKEY

Type phrases with a single tap

★★★★★

£2.99 Developer LittleFin LLC, quickkey-app.com

Works with iPhone, iPod touch, iPad **Version** 1.0



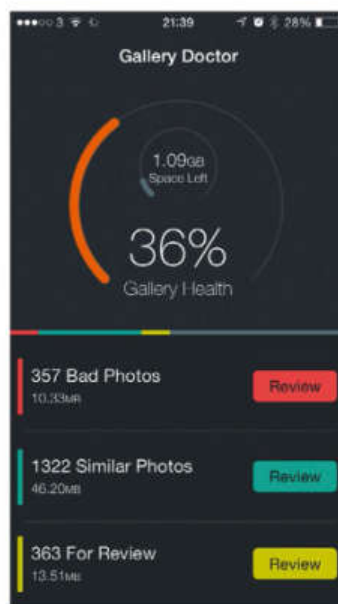
QuickKey is an iOS keyboard that replaces letters and numbers with pre-defined snippets. The app component enables you to define names, usernames, emails, addresses and favourites. These are then accessed in the keyboard by tapping the relevant icon and then the snippet itself.

Setup is straightforward, and you can import individual contact info to speed things along. Lists are always presented in alphabetical order, which is awkward if you have many; an exception is the favourites list, in which items

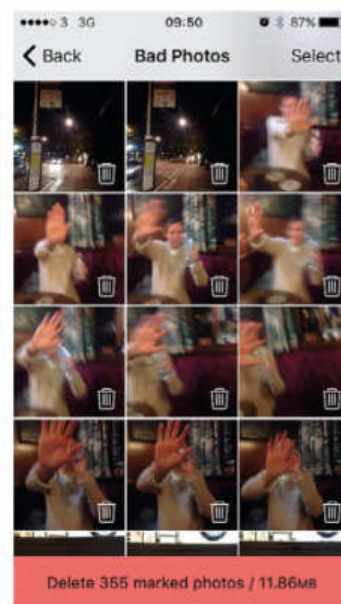
can be manually reordered. In use, it's fine, but nothing more. The app has potential to speed things along, but it awkwardly abbreviates addresses, has a delete key that ignores long-press, and comes with the associated general baggage of iOS third-party keyboards (that is, the overall system being quite clunky and unwieldy). It's useful, but by no means essential. **Craig Grannell**



If you need a snippets keyboard, this one does the job fairly well, despite being a bit of a faff.



After a lengthy scan process, Gallery Doctor recommends images for deletion.



Gallery Doctor

A fix for trigger-happy photographers

★★★★★

£2.29 Developer Playvr Media Ltd, gallerydoctor.com

Works with iPhone, iPod touch, iPad **Version** 1.0.3



The better the iPhone's camera, the more it gets used. And – not meaning to be unkind – not every picture you take is Pulitzer-worthy.

Gallery Doctor offers to perform miracles: going through your photo roll and automatically picking out shots you should get rid of.

Scanning our test library, comprising several years' worth of photography, took a while. Things were wrapping up ten minutes later, so being connected to a charger is a good idea. The scan takes in both local photos and those on iCloud.

Photos are split into 'Bad' photos, 'Similar' photos and 'For Review'. Bad was pretty effective at finding blurry shots or those with large areas of shadow (likely underexposed).

Getting rid of bad photos takes a single tap, with an info bar at the bottom of the screen showing how much space is about to be liberated.

'Similar' groups images that look the same, and allows you to erase

the whole lot or save individuals. It also attempts to pick the best photo. There's an irritation here – the only way to view said photo full-screen is to tap and hold your finger on the screen, thereby obscuring part of the shot.

Finally, photos for review are those Gallery Doctor can't make up its mind about. This produces a screen prompting irresistible comparisons with Tinder: swipe right to save images or left to delete.

Gallery Doctor works well (highlighting similar photos in particular). We're lukewarm over its ability to detect bad ones, though: some are worth keeping despite their technical deficiencies, so we'd tread cautiously with the delete all option. **Dave Stevenson**



A clever, effective way of spring-cleaning your camera roll – just be careful not to mistakenly delete photos you mean to keep!

Guerrilla Filmmaker brings another level of control to shooting video on your iPhone.



Guerrilla Filmmaker

Unlock your inner Kubrick with your iPhone



£2.99 Developer Sotcha, gfm-app.com

Works with iPhone, iPod touch, iPad **Version** 1.0.2



The best camera, they say, is the one you have in your hand. With this in mind, Sotcha has created the Guerrilla Filmmaker app, and it's actually rather good. It unlocks manual options for the otherwise automatic features of your iPhone's video mode – such as the camera's focus – though it's not the first app to do that. But that's actually just the beginning.

Yes, manually controlling the focus with a slider to create rack-focus-style shots is both easy to do

and extremely satisfying, but it's the programmable keyframe feature that makes this app so interesting and potentially useful.

All the manual features can be programmed to change their values at pre-designated intervals. That means if you have a tracking shot and want to pull focus between two focal planes you can program your focus shift, hit record and let the app worry about hitting the marks.

For filmmakers, this is a truly amazing feature and one that many professional cameramen would wish

their pro cameras had built in. Which, come to think of it, they really should do.

This programmable function is pretty easy to use and, like the rest of the interface, is reasonably well designed and intuitive. Menus are dragged in and out of view with swipes and, when expanded, the manual controls appear on-screen as simple sliders.

That said, it's not all perfect. There's no manual aperture control on the iPhone, so depth of field is locked; and, though the icons look good, it would be a nice touch to have more of a real-world interface that would be instantly recognisable to a video professional or DSLR owner. **Alun Pughe**

TEAM TALK



The iPhone has a great camera but I've always felt a bit limited by what it lets me do. That all changes with this app – I'm no movie maestro, but I'm intrigued by it. For such a low price, it's practically a giveaway.



Guerrilla Filmmaker represents superb value for money and real potential for iPhone-loving indie filmmakers.

- Enables manual controls
- Programmable features
- Excellent value for money
- Frustrating aperture limitations

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UPGRADE!

Your guide to buying a Mac, iPad, iPhone, Watch and Apple TV

SPOTLIGHT

The Apple kit we're most excited about



Shortly after Apple updated other devices to iOS 9, it rolled out watchOS 2.0, with smart new features such as Time Travel, dictation of email responses, and the ability to run apps on the Watch itself. Along with new models in Gold and Rose Gold aluminium, and new bands, Apple has made the black stainless steel model – once exclusively sold for £949 with a link bracelet – available with a Sport band for £479/£519.

If the first line-up of Watch designs didn't take your fancy, it's time to look again

Watch 1.5

Just a few months after its launch, Apple has introduced watchOS 2.0, which can run apps on the device, along with a few new colour and band combinations.



Apple Watch

CHOOSE A WATCH

DAYS SINCE REFRESH

172

UPDATE LIKELY?

Not until 2016

BUY OR WAIT?

Buy now

➤ Apple Watch just got watchOS 2 to go with iOS 9 on the iPhone. To accompany the update Apple has released some changes to the Watch line-up, although there's no change to the hardware specifications. However, there is now a Watch Hermès model, available with either a Single Tour, Double Tour or Cuff band, and sold only at select locations. Otherwise, it's still Sport, Watch and Edition you can choose from.

The biggest changes to the line-up are at the Sport end of things, as you might expect when they are the most affordable.

Alongside the silver and black aluminium

versions, you can now order Gold and Rose Gold watches (which have matte finishes as opposed to shiny ones). There's a range of new Sport Bands to go along with the new Sport watches, including two versions of white! A Product(RED) band also joins the line-up.

Model	Key Specifications	Price
Apple Watch Sport (38mm)	Cases: Silver, Gold, Rose Gold, Space Grey Aluminium	£299
Apple Watch Sport (42mm)	Cases: Silver, Gold, Rose Gold, Space Grey Aluminium	£339
Apple Watch (38mm)	Cases: Stainless Steel, Space Black	£479
Apple Watch (42mm)	Cases: Stainless Steel, Space Black	£519
Apple Watch Edition (38mm)	Cases: 18-Carat Rose Gold, 18-Carat Yellow Gold	£8,000
Apple Watch Edition (42mm)	Cases: 18-Carat Rose Gold, 18-Carat Yellow Gold	£9,500

The Days Since Refresh box shows you when an Apple product was last updated at the time we went to press, and whether it's safe to buy now or wait. Please remember this advice is just our best guess – Apple can update any product line at any time.



MacBook

DAYS SINCE REFRESH

218

UPDATE LIKELY?

New model

BUY OR WAIT?

Buy now

➤ The newest member of the Mac family sports a 12-inch Retina display with a pixel density of 226ppi – almost identical to the MacBook Pro. It's available in the same silver colour as other MacBooks, as well as Gold and Space Grey variants.

Only this and the MacBook Pro feature a Force Touch trackpad, which detects and responds differently to levels of pressure. The backlit keys are larger than on other Macs, and run almost from edge to edge of the MacBook's body.

The MacBook is powered by Intel's new Core M processors (up to 1.3GHz),

which are designed to stay cool without needing a fan, making this the quietest portable Mac. All models come with 8GB of RAM – double the amount that's standard on the MacBook Air – but can't be upgraded any further than that. They also include fast flash storage that starts at a comfortable capacity of 256GB, rising to 512GB in the more expensive version. The 1.3GHz processor upgrade is available on both models for between £120 and £200.

CHOOSE A MACBOOK

Model	Key specifications	Price
12" 1.1GHz dual-core Intel Core M	RAM: 8GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5300 Solid State Drive: 256GB	£1,049
12" 1.2GHz dual-core Intel Core M	RAM: 8GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5300 Solid State Drive: 512GB	£1,299
12" 1.3GHz dual-core Intel Core M	RAM: 8GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 5300 Solid State Drive: 256GB or 512GB	£1,249 or £1,419

R = Retina display



MacBook Air

DAYS SINCE REFRESH

218

UPDATE LIKELY?

Recently updated

BUY OR WAIT?

Buy now

➤ The 2015 MacBook Air refresh is a mere speed bump, yet even with the announcement of a new, lighter MacBook, the Air remains Apple's most affordable portable Mac.

The MacBook Air uses Broadwell processors, which are designed to use very little power. The 2015 range's updated graphics chipset is a small amount faster than its predecessor, and its flash storage can reach speeds in excess of 1,000 megabytes per second, which is in the same league as the Mac Pro. The MacBook Air is equipped with 802.11ac Wi-Fi, which is up to

three times quicker than 802.11n, although you will need a compatible router to get that speed. Battery life is awesome, with the 13-inch models lasting up to 12 hours, and the 11-inch Airs running for up to nine hours on a single charge.

CHOOSE A MACBOOK AIR

Model	Key specifications	Price
11" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 128GB	£749
11" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 256GB	£899
13" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 128GB	£849
13" 1.6GHz dual-core Intel Core i5	RAM: 4GB of 1600MHz LPDDR3 Graphics: Intel HD Graphics 6000 Solid State Drive: 256GB	£999

UPGRADE!



MacBook Pro

DAYS SINCE REFRESH

147

UPDATE LIKELY?

Recently updated

BUY OR WAIT?

Buy now

➤ Apple recently updated the Retina MacBook Pro with a brand-new Force Touch trackpad, small boosts to their Intel processors, and upgraded graphics capabilities. The most expensive model is the only one with a discrete graphics processor, which is now an AMD Radeon R9 M370X.

Since October 2013, all but one model of MacBook Pro has offered a Retina display, Thunderbolt 2, flash storage and a lightweight chassis, though the £899 non-Retina model persists. Power savings afforded by the latest Intel processors give the Retina

MacBook Pros a long battery life. The 13-inch model now lasts for 10 hours, and the 15-inch versions for nine hours.

CHOOSE A MACBOOK PRO

Model	Key Specifications	Price
13" 2.5GHz dual-core i5	Graphics: Intel HD Graphics 4000 Hard drive: 500GB RAM: 4GB	£899
13" 2.7GHz dual-core i5	Graphics: Intel Iris 6100 Graphics ^R Solid State Drive: 128GB RAM: 8GB	£999
13" 2.7GHz dual-core i5	Graphics: Intel Iris 6100 Graphics ^R Solid State Drive: 256GB RAM: 8GB	£1,199
13" 2.9GHz dual-core i5	Graphics: Intel Iris 6100 Graphics ^R Solid State Drive: 512GB RAM: 8GB	£1,399
15" 2.2GHz quad-core i7	Graphics: Intel Iris Pro Graphics ^R Solid State Drive: 256GB RAM: 16GB	£1,599
15" 2.5GHz quad-core i7	Graphics: AMD Radeon R9 M370X ^R Solid State Drive: 512GB RAM: 16GB	£1,999

^R = Retina display



iMac

DAYS SINCE REFRESH

362

UPDATE LIKELY?

Early 2016?

BUY OR WAIT?

Wait if you can

➤ Apple leapt straight to 5K to make the 27-inch Retina 5K iMac the desktop computer to own. In May 2015, Apple reduced the top model's price by £150; it has a 3.5GHz quad-core Intel Core i5 (there's a 4.0GHz Core i7 option), a 1TB Fusion Drive, 8GB of RAM and an AMD Radeon R9 M290X with 2GB video memory. At the same time Apple updated the mid-range 27-inch with a Retina 5K display and new graphics processor. Other models are unchanged, with one non-Retina 27-inch and three 21.5-inch models. All except the entry-level iMac have a quad-core processor.

CHOOSE AN iMAC

Model	Key specifications	Price
21.5" 1.4GHz dual-core Intel Core i5	Hard drive: 500GB (5400rpm) Graphics: Intel HD Graphics 5000 Graphics memory: Shared	£899
21.5" 2.7GHz quad-core Intel Core i5	Hard drive: 1TB (5400rpm) Graphics: Intel Iris Pro Graphics memory: Shared	£1,049
21.5" 2.9GHz quad-core Intel Core i5	Hard drive: 1TB (5400rpm) Graphics: NVIDIA GeForce GT 750M Graphics memory: 1GB of GDDR5	£1,199
27" 3.2GHz quad-core Intel Core i5	Hard drive: 1TB (7200rpm) Graphics: NVIDIA GeForce GT 755M Graphics memory: 1GB of GDDR5	£1,449
Retina 5K 27" 3.3GHz quad-core i5	Hard drive: 1TB (7200rpm) ^R Graphics: AMD Radeon R9 M290 Graphics memory: 2GB of GDDR5	£1,599
Retina 5K 27" 3.5GHz quad-core i5	Hard drive: 1TB Fusion Drive ^R Graphics: AMD Radeon R9 M290X Graphics memory: 2GB of GDDR5	£1,849

^R = Retina display



Mac mini

DAYS SINCE REFRESH

362

UPDATE LIKELY?

Mid 2016?

BUY OR WAIT?

Buy now

➤ The smallest Mac in Apple's range finally got a long-awaited update in October. It's a welcome update, but there have been a few odd choices in the components as well. Starting at a new lower price of £399 (£100 cheaper than the previous model), it's still the same shape as before, but with some more modern internals.

It starts with a 1.4GHz Intel Core i5 dual-core processor with Intel HD 5000 graphics, 4GB of RAM and a 500GB hard drive – pretty much the entry-level iMac without a screen. It's the same kind of power as you get in a

MacBook Air, but without the zippiness of flash memory.

Higher end models bring Intel Iris graphics and the option for a Fusion Drive hybrid storage system, though every option limits you to dual-core processors – a quad-core option is sadly absent. When stepping up to the high-end model (£230 more than the previous model), you get a 2.8GHz Core i5, 8GB of RAM, Intel Iris graphics and a 1TB Fusion Drive, offering more headroom for tasks such as video editing, but it still needs to be accepted that these aren't powerhouses like some other Macs.

CHOOSE A MAC MINI

Model	Key specifications	Price
1.4GHz dual-core Intel Core i5	Hard drive: 500GB RAM: 4GB 1600MHz LPDDR3 Graphics: Intel HD Graphics 5000	£399
2.6GHz dual-core Intel Core i5	Hard drive: 1TB RAM: 8GB 1600MHz LPDDR3 Graphics: Intel Iris Graphics	£569
2.8GHz dual-core Intel Core i5	Hard drive: 1TB RAM: 8GB 1600MHz LPDDR3 Graphics: Intel Iris Graphics	£799



iPhone

DAYS SINCE REFRESH

34

UPDATE LIKELY?

Recently updated

BUY OR WAIT?

Buy now

➤ The iPhone 6s and 6s Plus introduce the first new method of interaction since the touchscreen: 3D Touch. It's essentially the same Force Touch sensation found in the Apple Watch and recent MacBooks. In iOS 9 on these iPhones, you access shortcuts through a deep press on the screen. For example, you can 'peek' at a message in Mail to preview its content, and 'pop' it open to deal with it.

The 12 megapixel camera gives you the best ever iPhone shots. The 6s Plus still has the upper hand here with its optical image stabilisation.

Meanwhile, the 6 and 6 Plus enjoy a price drop and the 5s is now under £400 off contract, and free on many contract deals.

CHOOSE AN IPHONE

Model	Key specifications	Price
iPhone 5s	Processor: A7+M7 Camera: 8-megapixel Video: 1080p, 30fps/720p, 120fps	R 16GB: £379 32GB: £419
iPhone 6	Processor: A8+M8 Camera: 8-megapixel Video: 1080p, 60fps/720p, 240fps	R 16GB: £459 64GB: £539
iPhone 6 Plus	Processor: A8+M8 Camera: 8-megapixel Video: 1080p, 60fps/720p, 240fps	R 16GB: £539 64GB: £619
iPhone 6s	Processor: A9+M9 Camera: 12-megapixel Video: 4K at 30fps/1080p, 30/60fps	R 16GB: £539 64GB: £619 128GB: £699
iPhone 6s Plus	Processor: A9+M9 Camera: 12-megapixel Video: 4K at 30fps/1080p, 30/60fps	R 16GB: £619 64GB: £699 128GB: £789

R = Retina display

UPGRADE!



iPad

DAYS SINCE REFRESH

34

UPDATE LIKELY?

9.7-inch in 2016?

BUY OR WAIT?

Buy now

➤ The iPad Pro stole the show at Apple's September event in San Francisco. It's an incredible tablet – turn to page 10 to read all about it. As for the 'normal' iPad lineup, little has changed apart from the introduction of the iPad mini 4, a direct replacement for the iPad mini 3 – which finally puts the 7.9-inch iPad on par with the full size model again.

That's good news in iOS 9, because both sizes of iPad can take advantage of its new (iPad-only) multitasking features, enabling you to slide a second app into view (say, to check email) without leaving the one you're working

in. The iPad Air 2 and iPad mini 4 also have Split View mode, which enables you to work in two apps side-by-side. Those two models also feature Touch ID, Apple's fingerprint sensor.

CHOOSE AN iPad

Model	Key specifications	Price
iPad mini 2 Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels R Processor: 64-bit A7+M7 Video recording: 1080p HD	16GB: £219 32GB: £259
iPad mini 4 Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels R Processor: 64-bit A8+M8 Video recording: 1080p HD	16GB: £319 64GB: £399 128GB: £479
iPad Air Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels R Processor: 64-bit A7+M7 Video recording: 1080p HD	16GB: £319 32GB: £359
iPad Air 2 Wi-Fi (add £100 for 4G)	Resolution: 2048x1536 pixels R Processor: 64-bit A8X+M8 Video recording: 1080p HD	16GB: £399 64GB: £479 128GB: £559

R = Retina display



Apple TV

DAYS SINCE REFRESH

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➤ Eight years after the Apple TV came into our homes, it has finally been given an App Store. We can hardly recall a time when our iOS devices didn't have one, so it's good to see the humble black box getting a way to add content beyond TV, film and music. You can at last install apps that turn your TV into a place to catch up on news, sports results and even do some shopping. If it's games you're into, Apple TV is also a games console with a clever remote that gives you motion control via a gyroscope and an accelerometer, just like your iPhone.

The top area of the remote is dedicated to touch, meaning you can control your Apple TV like never before. So it's all gesture-based; tap and swipe your way through menus and use it as a scrubber for speeding through video. The new Apple TV includes Siri too, which looks very clever at responding to natural language queries, so you can ask it to show you the latest action films, say.

The new model is the same width and depth as the previous two generations, but it's a little taller – by 12mm. You'll still need to supply your own HDMI cable as well.

CHOOSE AN APPLE TV

Model	Key specifications	Price
Apple TV (3rd-generation)	Processor: single-core A5 Connectivity: HDMI, IR receiver, 10/100BASE-T Ethernet, micro-USB (for service only)	£59
Apple TV (4th-generation)	Processor: dual-core A8 Connectivity: HDMI 1.4, IR receiver, Bluetooth 4.0, 10/100BASE-T Ethernet, USB-C (for service only)	32GB: TBC 64GB: TBC

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Wireless charging



Wouldn't it be great if you didn't have to find a cable to charge your iPhone, iPad or maybe even your MacBook? Apple's working on it.

Wireless charging is already widespread – many smartphones use it, and of course the Apple Watch charges wirelessly too – but so far Apple has mainly stuck with cables. There are several reasons for that. One is that wireless charging is currently undergoing a standards war, with three different ones competing against each other. But more importantly, Apple wants to do things a little bit differently – and differently from how it charges the Watch, too.

The Apple Watch charges via inductive charging, also known as tightly coupled wireless charging. That works fairly well, but it requires specific positioning to work. That's why the Watch charger clunks into the same place every time; if the charger isn't in the right place, you don't get any power transfer. A slightly different form of charging, known as resonant charging or loosely coupled charging, enables you to get your power without actually touching the charger. That charger might live inside your desk or inside your walls – this year, wireless charging firm WiTricity demoed resonant wireless chargers that were placed under desks and behind concrete – or it might live inside your next Mac (see our feature on page 75).

The patent to look at is WIPO document WO2011062827, “Wireless Power Utilization in a Local Computing Environment”. It shows an iMac-shaped device with a Near Field Magnetic Resonance (NFMR) power supply wirelessly charging various devices around it. “Typically,” the patent application says, “the distance can be in the order of 1 meter or so”. A US patent the following year added meat to the bones, clearly showing an iMac wirelessly charging an iPod, keyboard and Magic Mouse – with the keyboard rebroadcasting power to compensate for range-killing interference. Apple has clearly been thinking about this for some time. Back in 2005 it filed a patent for wirelessly charging an iPod, again by resonant charging.

It's exciting, but the Apple Watch provides a major clue that it's still some way off; if resonant charging was capable of meeting Apple's standards, it would be in the Watch already.



Resonant charging, also known as loosely coupled charging, enables you to get wireless power without needing your device to touch a charger.





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